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DRAFT
ARKANSAS RIVER RECREATION MANAGEMENT PLAN

AND
ENVIRONMENTAL ANALYSIS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

COMPLETED

March 3, 1849

United States Department of the Interior

TAKE PRIDE IN AMERICA

BUREAU OF LAND MANAGEMENT
CANON CITY DISTRICT OFFICE
P.O. BOX 311
CANON CITY, COLORADO 81212

8372/1792
(CO-057)

Dear Reader:

Enclosed, for your review and comment, is the draft Arkansas River Recreation Management Plan and Environmental Assessment for the Royal Gorge Resource Area. This document addresses river related recreation on BLM-administered public lands along the Arkansas River between Leadville and Pueblo, Colorado. It is based on a management and development proposal (or proposed action) prepared by the 22-member Advisory Committee appointed by the Colorado State Parks Board. Three Alternatives to this Proposal are also considered. Simply stated, the purpose of the Alternatives is to explore reasonable and realistic options to the Proposed Action.

You are invited to comment on the Proposed Action, Alternatives, and adequacy of the impact analysis. Please direct your written comments to Area Manager, Royal Gorge Resource Area, Bureau of Land Management, P.O. Box 311, Canon City, Colorado 81212. Written comments should be received by close of business on September 30, 1988.

In addition, oral testimony will be accepted at the following public hearings:

Wednesday, 2 p.m. and 7 p.m., September 7, 1988, Ramada Inn NW, Service Road North, Wheatridge, CO (located at the intersection of I-70 and Kipling Street).
Monday, 2 p.m. and 7 p.m., September 12, 1988, Fremont County Courthouse Auditorium, 600 Macon Avenue, Canon City, Colorado.
Friday, 2 p.m. and 7 p.m., September 16, 1988, Buena Vista Community Center, 715 E. Main Street, Buena Vista, Colorado.

An open house to answer any questions from the public will begin 1 hour before each hearing. Oral testimony for the official record will not be taken at the open houses, only at the hearings.

After considering and evaluating all public comments received on the draft plan, the final Arkansas River Recreation Management Plan will be published and released during the fall of 1988. The final decision may be to select the Proposed Action, any of the Alternatives, or a combination of the Alternatives and Proposed Action.

Thank you for your interest in the Arkansas River.

Sincerely yours,

Donnie R. Sparks

Donnie Sparks
District Manager

PREFACE

The Arkansas River Recreation Management Plan is unique, in several ways. First of all, it is unique in its comprehensiveness. Initial interagency and intergovernmental coordination demonstrated that a simple BLM plan could not possibly address all important issues. At least 16 different government entities, each having some kind of authority to manage or otherwise effect the recreational character of Arkansas River use, have been directly involved in the plan. Two different citizen groups have also served in an advisory capacity to help develop the plan. These groups have represented not only cooperating governments and agencies but also recreational user groups, environmental organizations, conservation districts, industry associations, and area residents.

The plan is unique in its scope. The effort began as a simple revision of the Bureau of Land Management's (BLM's) Arkansas River Recreation Area Management Plan for 57,000 acres of public lands which front 54 river miles. Under the comprehensive approach outlined above, the plan's scope has expanded to include 141 miles of river, from Leadville to Pueblo, Colorado, including not only public lands managed by BLM, but also National Forest land, State land, and privately owned lands.

All parties have worked together to produce an integrated plan for the entire river system. This means several things. Of primary importance is the legal and regulatory framework already in place which mandates how this process has to occur. This cooperative planning effort respects those requirements and is built around them. For example, the Federal Land Policy and Management Act of 1976, or FLPMA, requires that a public involvement procedure is followed to ensure that the public's voice is heard in the plan's development. Environmental reporting requirements are also set forth in the National Environmental Policy Act, also called NEPA.

Uniqueness of this plan is further seen as its vision. As a result of public scoping meetings held in the fall of 1987, and in response to multi-jurisdictional administrative complexities, the public indicated preference for a single recreation administrator for the entire river. While the public's indicated preference is for the Colorado Division of Parks and Outdoor Recreation (DPOR) to be that manager, this plan itself does not make that decision. Final determination of who should manage awaits completion of the plan, pending demonstration of public support for the design it entails. The plan anticipates a cooperative management agreement as the contract to implement the plan's design, with DPOR being the public lands recreation manager. The vision is to have an Arkansas River State Recreation Area which action would be incorporated within the Record of Decision (please refer to the illustration below).

Chapters I through III of this plan are introductory in nature. Chapters VIII and IX contain support materials on public involvement for this effort as well as supporting data and reference materials.

But the heart of the plan is Chapters IV through VII. Chapter IV is the Management and Development Proposal. This proposal has been incorrectly labeled as the Draft "Arkansas River State Recreation Area Management Plan" on the copy submitted to the Parks Board on May 20, 1988 by DPOR. Instead, it is only one part of this draft plan, the Proposed Action.

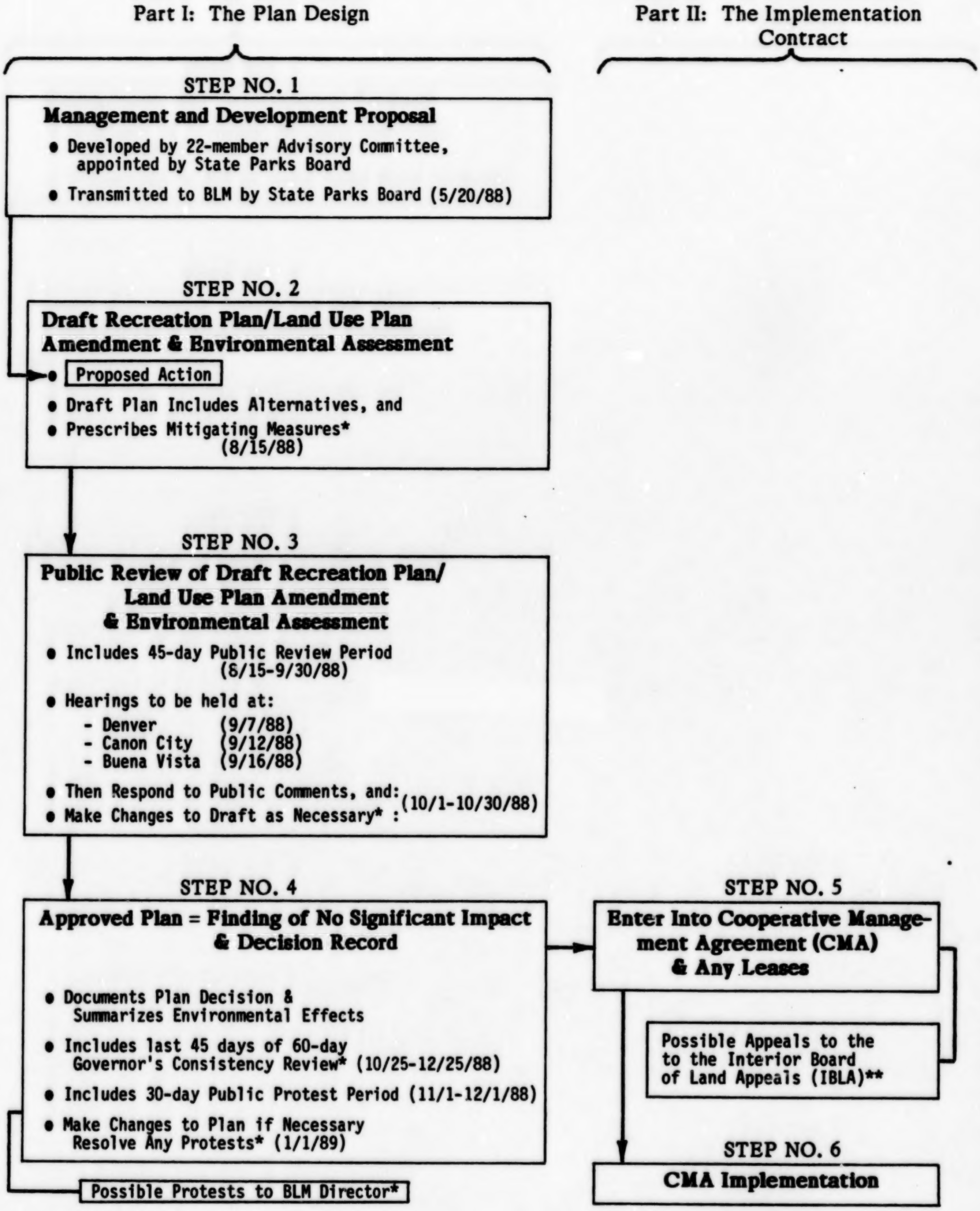
Equally important are the range of alternatives to that proposal which are set forth in Chapter V. Each of the alternatives and the proposal are realistic alternative river recreation management options that are being considered in this draft plan.

Chapters VI and VII describe the environment affected by those management options and analyze the environmental impacts of each. There are several purposes for this analysis. The first is to determine whether to prepare an environmental impact statement or render a finding of no significant impact. If the latter occurs, then the environmental analysis also serves to inform managers what the environmental impacts would be of implementing each of those management options--including the proposal, to secure public comment on those options, and thus guide the decision to be made on the final plan.

Public comments to this draft plan are invited; managers need to know how the public feels about each of the management options analyzed. Please note, however, that only substantive comments may be responded to in the final plan. Managers need to know what objective concerns exist and the degree to which those concerns are shared by the public. Simple number of comments will have no bearing on final plan determination unless they deal with substantive issues and concerns addressed by the plan.

Unlike other units of the Colorado State Park System, this one, if it becomes a reality, will always be tied to the public land laws. These laws direct both how the public lands are to be managed as well as a specific public involvement process for making that determination. Important landmark legislation spelled out in both FLPMA and NEPA will continue to apply as long as the public lands involved remain in public ownership.

Development of this plan consists of four distinct and successive steps as depicted by the following graphic. Not until step four is completed will there be a completed plan. Step five deals with plan implementation; it will be the contract that tells how to implement the plan design developed through the first four steps. Step six is the actual carrying out of the contract according to plan design.



Part I: The Plan Design

Part II: The Implementation Contract

STEP NO. 1

Management and Development Proposal

- Developed by 22-member Advisory Committee, appointed by State Parks Board
- Transmitted to BLM by State Parks Board (5/20/88)

STEP NO. 2

Draft Recreation Plan/Land Use Plan Amendment & Environmental Assessment

- Proposed Action
- Draft Plan Includes Alternatives, and
- Prescribes Mitigating Measures* (8/15/88)

STEP NO. 3

Public Review of Draft Recreation Plan/ Land Use Plan Amendment & Environmental Assessment

- Includes 45-day Public Review Period (8/15-9/30/88)
- Hearings to be held at:
  - Denver (9/7/88)
  - Canon City (9/12/88)
  - Buena Vista (9/16/88)
- Then Respond to Public Comments, and:
- Make Changes to Draft as Necessary* : (10/1-10/30/88)

STEP NO. 4

Approved Plan = Finding of No Significant Impact & Decision Record

- Documents Plan Decision & Summarizes Environmental Effects
- Includes last 45 days of 60-day Governor's Consistency Review* (10/25-12/25/88)
- Includes 30-day Public Protest Period (11/1-12/1/88)
- Make Changes to Plan if Necessary Resolve Any Protests* (1/1/89)

Possible Protests to BLM Director*

STEP NO. 5

Enter Into Cooperative Management Agreement (CMA) & Any Leases

Possible Appeals to the to the Interior Board of Land Appeals (IBLA)**

STEP NO. 6

CMA Implementation

* Note: These items may/will change the plan.

** Note: This may change the CMA.

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ARKANSAS RIVER RECREATION MANAGEMENT PLAN AND ENVIRONMENTAL ANALYSIS

TABLE OF CONTENTS

Page

CHAPTER I: INTRODUCTION

A. Location and Setting....................................I-1
B. Resources...I-3
C. Visitor Use...I-4
D. Management..I-5
E. Recreational Characteristics............................I-6

CHAPTER II: PURPOSE AND NEED FOR ACTION.........................II-1 11

CHAPTER III: ADMINISTRATION

A. Geographic and Land Area: Scope of Effort..................III-1 18

B. Time Horizons Addressed by the Plan........................III-1 18

C. Applicable Mandates..III-1 18
  1 Federal Land Policy and Management Act of 1976 (FLPMA)..III-1 18
  2. National Environmental Policy Act (NEPA)...............III-2 19
  3. Conformance with Land Use Plan (Amendment Under FLPMA)..III-2 19
  4. National Wild and Scenic Rivers Act....................III-2 19
  5. Administrative Procedures Act (APA)....................III-3 20

D. BLM Recreation Regulations and Policy Requirements for the Plan Content...III-3 20

E. Management Authorities and H.B. 1253.......................III-4 21

F. Agreements for the Present Planning Effort.................III-5 22

G. Potential Implementing Instruments.........................III-6 23
  1. Cooperative Management Agreement (CMA).................III-6 23
  2. Recreation and Public Purposes (R&PP) Lease............III-7 24
  3. A Combination CMA/R&PP Lease to Implement the Plan......III-7 24
  4. Other Agreements.......................................III-8 25
  5. CMA Content..III-8 25
    a. BLM's Continuing Role................................III-8 25
    b. Plan Amendments -- Conditions and Procedures........III-9 26
    c. Development of Regulations by DPOR--Procedures......III-9 26
    d. Continuing Committee/Task Force Involvement.........III-9 26
    e. Procedures for Implementing Allocations: Allotment and Rationing...............................III-9 26

TABLE OF CONTENTS

CHAPTER IV: PROPOSED ACTION

Section 1. All Segments, Area-Wide Goals........................IV-2 33
Section 2. All Segments, Multiple Use Goals....................IV-7 38
Section 3. Segment-Specific Goals and Objectives...............IV-8 39

Segment 1: Leadville to Buena Vista.........................IV-8 39
Segment 2: Buena Vista to Salida............................IV-11 42
Segment 3: Salida to Vallie Bridge..........................IV-15 46
Segment 4: Vallie Bridge to Parkdale........................IV-17 48
Segment 5: Parkdale to Canon City...........................IV-20 51
Segment 6: Canon City to Pueblo Reservoir...................IV-21 52

Section 4. All Segments: Area-Wide Implementing Actions.......IV-23 54

I. Resource Management....................................IV-23 54
II. Visitor Management....................................IV-23 54
III. Facility Management..................................IV-27 58
IV. Access and Easement Acquisition.......................IV-27 58
V. Administration...IV-28 59

Section 5: Segment-Specific Implementing Actions...............IV-33 64

Segment 1:

I. Resource Management.................................IV-33 64
II. Visitor Management.................................IV-33 64
III. Facility Management...............................IV-34 65
IV. Access and Easement Acquisition....................IV-36 67
V. Administration......................................IV-36 67

Segment 2:

I. Resource Management.................................IV-37 68
II. Visitor Management.................................IV-38 69
III. Facility Management...............................IV-40 71
IV. Access and Easement Acquisition....................IV-43 74
V. Administration......................................IV-44 75

Segment 3:

I. Resource Management.................................IV-45 76
II. Visitor Management.................................IV-45 76
III. Facility Management...............................IV-46 77
IV. Access and Easement Acquisition....................IV-47 78
V. Administration......................................IV-47 78

Segment 4:

I. Resource Management.................................IV-48 79
II. Visitor Management.................................IV-48 79
III. Facility Management...............................IV-50 81
IV. Access and Easement Acquisition....................IV-53 84
V. Administration......................................IV-53 84

Segment 5:

I. Resource Management....................................IV-53 84
II. Visitor Management....................................IV-53 84
III. Facility Management..................................IV-54 85
IV. Access and Easement Acquisition.......................IV-54 85
V. Administration...IV-55 86

Segment 6:

I. Resource Management....................................IV-55 86
II. Visitor Management....................................IV-55 86
III. Facility Management..................................IV-56 87
IV. Access and Easement Acquisition.......................IV-57 88
V. Administration...IV-57 88

Section 6: Recreation Development Concepts....................IV-58 89

Section 7: Implementation/Phasing.............................IV-63 94
Segment 1...IV-63 94
Segment 2...IV-63 94
Segment 3...IV-65 96
Segment 4...IV-66 97
Segment 5...IV-67 98
Segment 6...IV-67 98
Area-wide...IV-68 99

CHAPTER V: ALTERNATIVES

Alternative A: Reduced Development............................V-1 100
Alternative B: Land-Based.....................................V-9 108
Alternative C: No Action......................................V-10 109
Other Alternatives Considered but not Analyzed................V-11 110

A. Objectives...V-19 118
1. Area-Wide..V-19 118
2. Segment Specific...V-20 119
Segment 1...V-22 121
Segment 2...V-24 123
Segment 3...V-26 125
Segment 4...V-27 126
Segment 5...V-29 128
Segment 6...V-30 129

B. Implementing Actions.......................................V-31 130
1. Area Wide..V-31 130
2. Segment Specific...V-35 134
Segment 1...V-36 135
Segment 2...V-40 139
Segment 3...V-51 150
Segment 4...V-56 155
Segment 5...V-65 164
Segment 6...V-69 168

C. Implementation/Phasing....................................V-73 172

CHAPTER VI: AFFECTED ENVIRONMENT

General Setting..VI-1 182

A. Critical Elements...VI-1 182
1. Threatened and Endangered Species......................VI-1 182
2. Wilderness...VI-6 187
3. Visual Resources.......................................VI-7 188
4. Socio-Economics..VI-8 189
5. Cultural and Paleontological Resources................VI-13 194
6. Water Quality...VI-16 197
7. Hazardous Wastes......................................VI-17 198

B. Other Affected Resources..................................VI-18 199
1. Realty..VI-18 199
2. Energy/Mineral Resources..............................VI-19 200
3. Recreation..VI-21 202
4. Soils..VI-32 213
5. Vegetation (Other than T&E Species)...................VI-35 216
6. Animal Life (All but Livestock and T&E Species).........VI-37 218
7. Access and Transportation.............................VI-51 232
8. Noise..VI-57 238
9. Grazing Management....................................VI-57 238
10. Safety..VI-58 239

C. Resources Absent and Those Present but Unaffected..........VI-59 240

CHAPTER VII: ENVIRONMENTAL CONSEQUENCES

Proposed Action..VII-1 241

A. Critical Elements -- Impacts and Mmitigation............VII-1 241
1. Threatened and Endangered Species..................VII-1 241
2. Wilderness...VII-3 243
3. Visual Resources...................................VII-4 244
4. Socio-Economics....................................VII-4 244
5. Cultural and Paleontological Resources.............VII-8 248
6. Water Quality......................................VII-9 249
7. Hazardous Wastes...................................VII-9 249

B. Other Affected Resources -- Impacts and Mitigation......VII-11 251
1. Realty...VII-11 251
2. Energy/Mineral Resources...........................VII-11 251
3. Recreation...VII-13 253

4. Soils..VII-33 273
5. Vegetation (Other than T&E Species)................VII-33 273
6. Animal Life (All but Livestock and T&E Species)....VII-34 274
7. Access and Transportation..........................VII-48 288
8. Noise..VII-51 301
9. Grazing Management.................................VII-52 302
10. Safety..VII-52 302

C. Residual Adverse Impacts..............................VII-53 303

D. Cumulative Effects.....................................VII-56 306

Alternative A: Reduced Development.......................VII-57 306

A. Critical Elements -- Impacts and Mitigation............VII-57 307
1. Threatened and Endangered Species.................VII-57 307
2. Wilderness...VII-57 307
3. Visual Resources.....................................VII-58 308
4. Socio-Economics......................................VII-58 308
5. Cultural and Paleontological Resources............VII-59 309
6. Water Quality...VII-59 309
7. Hazardous Wastes.....................................VII-59 309

B. Other Affected Resources -- Impacts and Mitigation......VII-59 309
1. Realty..VII-59 309
2. Energy/Mineral Resources...........................VII-60 310
3. Recreation...VII-60 310
4. Soils..VII-72 322
5. Vegetation (Other than T&E Species)................VII-72 322
6. Animal Life (All but Livestock and T&E Species)....VII-72 322
7. Access and Transportation..........................VII-74 324
8. Noise...VII-75 325
9. Grazing Management.................................VII-76 326
10. Safety...VII-76 326

C. Residual Adverse Impacts..............................VII-76 326

D. Cumulative Effects.....................................VII-78 328

Alternative B: Land-Based.................................VII-79 329

A. Critical Elements -- Impacts and Mitigation............VII-79 329
1. Threatened and Endangered Species.................VII-79 329
2. Wilderness...VII-79 329
3. Visual Resources.....................................VII-79 329
4. Socio-Economics......................................VII-80 330
5. Cultural and Paleontological Resources............VII-81 331
6. Water Quality...VII-81 331
7. Hazardous Wastes.....................................VII-81 331

B. Other Affected Resources -- Impacts and Mitigation......VII-81 331
  1. Realty.......................................VII-81 331
  2. Energy/Mineral Resources.....................VII-82 332
  3. Recreation...................................VII-82 332
  4. Soils..VII-88 338
  5. Vegetation (Other than T&E Species)..........VII-88 338
  6. Animal Life (All but Livestock and T&E Species)....VII-88 338
  7. Access and Transportation....................VII-90 340
  8. Noise..VII-91 341
  9. Grazing Management...........................VII-91 341
  10. Safety......................................VII-91 341

C. Residual Adverse Impacts.......................VII-92 342

D. Cumulative Effects.............................VII-92 342

Alternative C: No Action..........................VII-93 343

A. Critical Elements -- Impacts and Mitigation....VII-93 343
  1. Threatened and Endangered Species............VII-93 343
  2. Wilderness...................................VII-93 343
  3. Visual Resources.............................VII-94 344
  4. Socio-Economics..............................VII-94 344
  5. Cultural and Paleontological Resources.......VII-95 345
  6. Water Quality................................VII-95 345
  7. Hazardous Wastes.............................VII-95 345

B. Other Affected Resources -- Impacts and Mitigation......VII-95 345
  1. Realty.......................................VII-95 345
  2. Energy/Mineral Resources.....................VII-96 346
  3. Recreation...................................VII-96 346
  4. Soils..VII-105 355
  5. Vegetation (Other than T&E Species)..........VII-105 355
  6. Animal Life (All but Livestock and T&E Species)....VII-105 355
  7. Access and Transportation....................VII-107 357
  8. Noise..VII-108 358
  9. Grazing Management...........................VII-108 358
  10. Safety......................................VII-109 359

C. Residual Adverse Impacts.......................VII-109 359

D. Cumulative Effects.............................VII-110 360

CHAPTER VIII: CONSULTATION AND COORDINATION.......VIII-1 361

CHAPTER IX: APPENDICES

A. Arkansas River Management and Development Proposal, DPOR....A-1 366
B. Socio-Economic Values..........................B-1 401
C. Cultural and Historic Sites....................C-1 404
D. Realty Authorizations..........................D-1 410
E. Encumbrances on Proposed R&PP Sites............E-1 418

F. Mining Claims...F-1 420
G. Recreation Users/Preferences..............................G-1 423
H. Vegetative Contracts......................................H-1 432
I. Dredging Stipulations.....................................I-1 433
J. House Bill 1253...J-1 436

SUPPORT DATA

List of Illustrations...SD-1 439
Bibliography..SD-2 440

CHAPTER I
INTRODUCTION

Jointly prepared by the Colorado Division of Parks and Outdoor Recreation (DPOR) and the Bureau of Land Management (BLM), the Arkansas River Recreation Management Plan is the product of two years of cooperation and teamwork among at least 16 separate government entities, a five-member task force advisory to the BLM in the plan's initial stages and later a 22-member citizen's advisory committee appointed by the Colorado State Parks Board, and numerous interested citizens. This multi-jurisdictional plan is comprehensive in that it deals with the entire river corridor, from Leadville to Pueblo Reservoir. It is strategic in that it outlines a new direction for future management of this river and of adjacent public lands in response to growing recreation demands for this outstanding recreation resource. The plan does not simply maintain the "status quo" from what has been done in the past.

For each of six distinctly different river segments, the plan charts a course of action beginning with goals which state the results the plan is geared to achieve; then on to objectives which answer the "whos", "whats", "wheres", and "whens" of management intent in very specific and measurable ways; and finally, the actual management proposal is spelled out by a series of implementing actions that make it truly implementable.

Chapters I-III of this document are primarily informational and help set the stage for describing what the Arkansas River planning effort is all about. Chapter II on Purpose and Need provides some of the history and background. But Chapter III is especially helpful in clarifying administrative matters relating to questions of authorities, legal requirements, and other peculiarities of this intergovernmental plan.

The actual management proposal is the heart of the plan and is set forth in Chapter IV along with all-important management objectives and implementation phasing. These objectives are particularly important because they distill management concerns, providing tangible and measurable statements of what is actually to be accomplished. In addition, they promote mutual understanding and will serve as standards of control once the plan is implemented.

Chapter V describes some real and practical management alternatives which identify what could be done if portions of the management proposal are not acceptable. These alternatives deal with the most likely options that may have to be faced. These are also incorporated within the Environmental Analysis in Chapters VI, VII, and VIII. Notice that this report combines the plan itself with the required environmental analysis. Support materials are included in the Chapter IX Appendix.

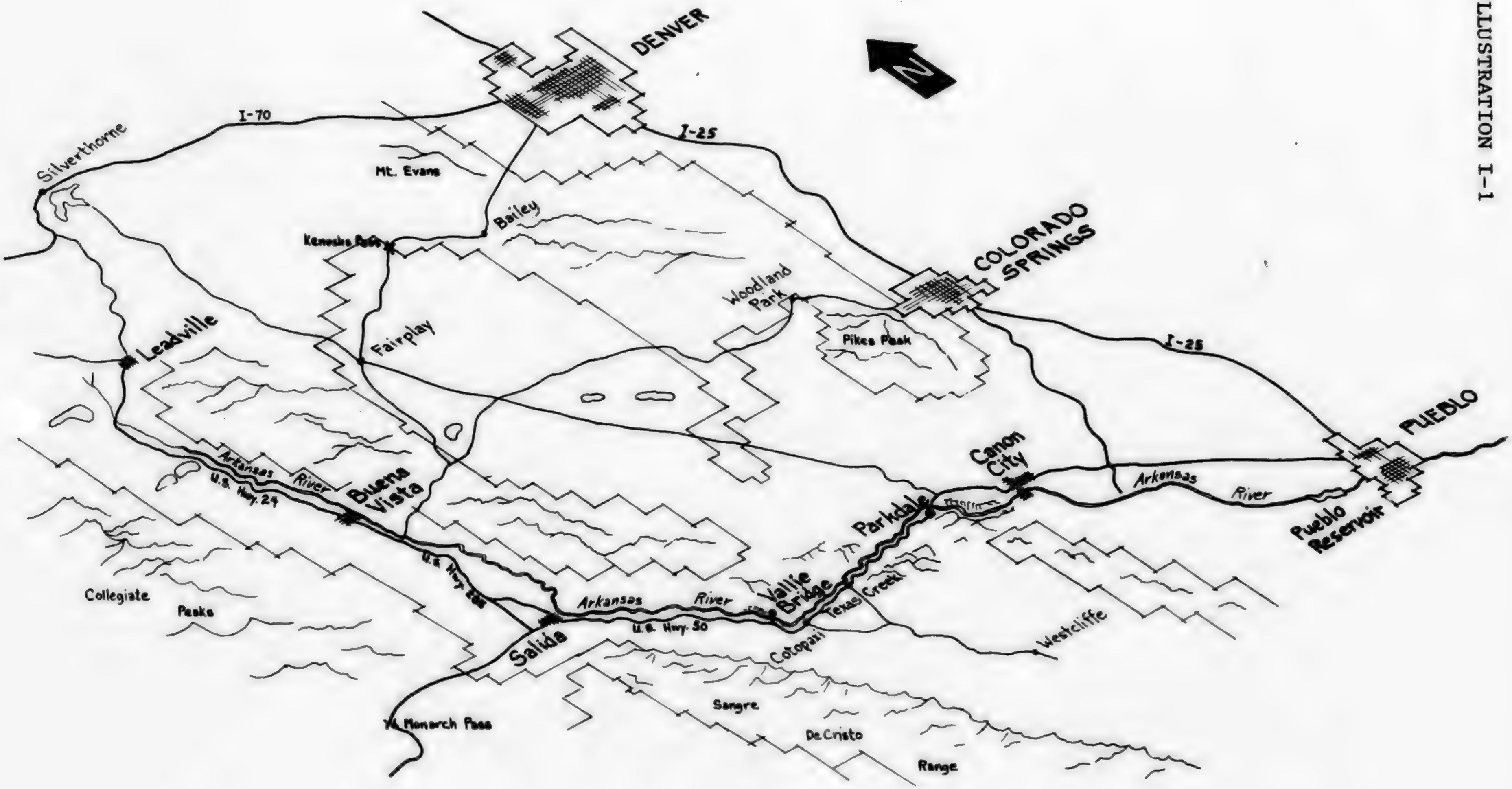
A. Location and Setting

The Arkansas River is the major drainage system in southeastern Colorado. The planning area includes the river corridor from Leadville near its headquarters all the way to Pueblo Reservoir out on the plains. The river lies within a two to three-hour drive of more than three million people who live in metropolitan Front Range communities. Illustration I-1 shows its proximity to the cities of Denver, Colorado Springs, and Pueblo.

ILLUSTRATION I-1

ARKANSAS RIVER RECREATION MANAGEMENT PLAN
Planning Area

Leadville — Segment #1 — Buena Vista — Segment #2 — Salida — Segment #3 — Vallie Bridge — Segment #4 — Parkdale — Segment #5 — Canon City — Segment #6 — Pueblo Reservoir



The Upper Arkansas River, from Leadville to Pueblo, is recognized as one of the premier recreation rivers in the United States and the world. Enjoying an international reputation for the quality and diversity of its whitewater boating opportunities, the Arkansas is also widely known for its outstanding fishing, sightseeing, and other recreation opportunities.

It begins in a high mountain valley, surrounded by the snow-capped peaks of the Collegiate Range. Entering Browns Canyon and the Arkansas River Canyon thereafter, the river enters a more enclosed and rugged landscape. Throughout its downstream canyon trek, the river encounters several open landscapes or parks, and then re-enters other canyons. Below Canon City, the river enters the eastern plains landscape. This national whitewater resource lies within a two to three hour drive of the state's two millions plus front range urban residents. The lower river lies immediately west of the city of Pueblo, southwest of Colorado Springs. Denverites can reach the upper segment within approximately two and one-half hours via South Park. Outstanding kayaking and whitewater rafting and some excellent trout fishing occur within this varied resource, approximately 141 miles in length. In addition to its significance as a whitewater and fisheries resource, much of it lies adjacent to Highways 50 and 24, primary tourism routes. Numerous roadside pullouts provide ready access for picnicking, undeveloped camping, and sightseeing.

B. Resources

The Arkansas River is neither a wilderness nor a backcountry river. From its headwaters near the town of Leadville, the river flows literally through the back yard of several other towns including Buena Vista, Salida, Canon City, and Florence. The river is also an integral part of several smaller communities including Johnson Village, Wellsville, Howard, Cotopaxi, Texas Creek, Parkdale, and others. Yet the river landscape is extremely diverse. Contrasted with the urban settings just described are the more remote sections of Browns Canyon which are unroaded and lie adjacent to a BLM wilderness study area. Still, an ever-present feature throughout most of the river's length is the Denver and Rio Grande Western Railroad.

Six distinct river segments have been recognized. Each has different resource and visitor use characteristics.

Segment 1: Leadville to Buena Vista - Ideally suited for technical private boating, the primary use, this segment offers Classes I through V rapids and vertical drops ranging from 26 to 66 feet per mile. Some limited commercial rafting, camping, fishing, and hiking also occur.

Segment 2: Buena Vista to Salida - The most heavily used portion of the river for commercial rafting trips, this segment offers Class III rapids and a vertical drop of 30 feet per mile. Ingress and egress areas are limited. Other activities include fishing, some private kayaking and rafting, and some overnight camping trips. Boating and fishing access is limited. Two of the most heavily used sites are Fisherman's Bridge and Hecla Junction.

Segment 3: Salida to Vallie Bridge - Fishing is the dominant use in this segment, and the Colorado Division of Wildlife has undertaken fisheries habitat improvement projects and obtained a number of fishing easements. Some boating occurs including the annual FIBARK race. This segment lies adjacent to Highway 50.

Segment 4: Vallie Bridge to Parkdale - Another very heavily used area for commercial boating use, this segment also lies adjacent to Highway 50 and has rapids up to Class IV. In addition, numerous roadside picnicking, viewing, and other uses occur at numerous pullouts. Primary viewing activities are for bighorn sheep and watching boating use. The most heavily used sites are Pinnacle Rock, Salt Lick, and Parkdale recreation sites.

Segment 5: Parkdale to Canon City - Running through the Royal Gorge, this segment offers very technical whitewater, Class V rapids with a vertical drop of 50 feet per mile. Only recently has this segment even been run. It is potentially quite hazardous.

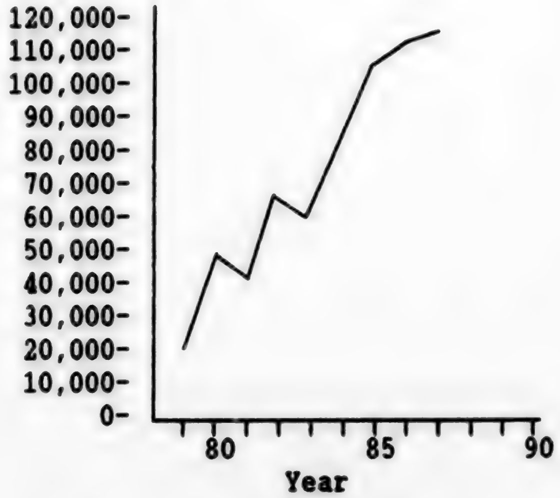
Segment 6: Canon City to Pueblo Reservoir - This segment differs from the previous five in that it is more characterized as a plains river, dropping only 15 vertical feet per mile and offering Class I rapids. Ideally suited for canoeists, rafters, and kayakers desiring a more tranquil river trip, it also offers good fishing opportunities.

Of the 148.5 river miles within the planning area, 40.4 miles (27.2 percent) lie adjacent to public lands administered by the BLM (on at least one side of the river for all public lands measured). Another 1.6 miles (1.1 percent) lie adjacent to National Forest lands administered by the USDA Forest Service. Approximately 10.1 miles (6.8 percent) of the planning area lie adjacent to the municipalities or communities noted above, which is in either municipal or private ownership. State-owned lands comprise 7.8 miles of the total river corridor (5.2 percent) (including prison lands). The remaining 88.6 miles (59.7 percent) of the river shoreline lies adjacent to private landowners.

C. Visitor Use

Recreation visitation has experienced a precipitous increase during the past decade. Several recreation facilities along the river are stretched to their maximum capabilities. Other areas, lacking recreation management and resource protection, are also being intensively used absent the provision of corresponding resource protection, visitor health and safety, and visitor services. Conflicts between competing recreation users, or between recreation users and local residents, are also increasing. Use of public lands administered by BLM on that portion of the river from Buena Vista to Parkdale has increased from 22,000 user days in 1979 to 116,000 user days in 1987 (a "user day" is someone engaged in recreation for all or part of a calendar day). The following table and graphic illustrate this growth.

	Number of User Days		
Year	Total	Commercial	Private
1979	22,220	18,518	3,704
1980	48,953	40,794	8,159
1981	43,415	36,179	7,236
1982	67,175	53,741	13,435
1983	63,791	51,033	12,758
1984	84,695	67,756	16,939
1985	105,750	84,600	21,150
1986	111,392	89,114	22,278
1987	116,488	93,190	23,298



Total boating use on all segments for 1987 is estimated at 132,200 visits. Sub-totals for each of the segments are depicted by the following table and graphic.

Recreation visits for the five most heavily used public lands sites along the river in 1987 were as follows.

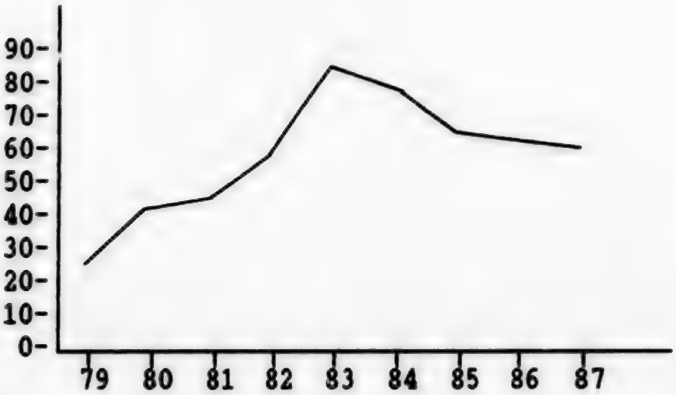
Segment Number	Recreation Site Name	Total No. Visits	Facilities
2	Fishermans Bridge	15,900	Boat ramp, parking, toilets, visitor information
2	Hecla Junction	65,870	Boat ramp, parking, toilets, camping, visitor information
4	Pinnacle Rock	8,200	Boat ramp, parking, toilets, visitor information
4	Salt Lick	21,200	Boat ramp, parking, toilets, visitor information
4	Parkdale	28,300	Boat ramp, parking, toilets, visitor information

Total use of all public lands within the planning area includes boating, fishing, picnicking, and camping and was estimated at 225,450 visits for 1987. In terms of total time spent while recreating, most of this visitor use is for boating (59 percent), fishing (10 percent) and motorized use (22 percent). The river's significance as a national resource is attested to by the fact that about 40 percent of total river boating use consists of non residents.

D. Management

BLM began to require Special Recreation Permits (SRPs) for all commercial use of public lands along the Arkansas River corridor for river outfitting beginning in 1979. The following table depicts the growth of commercial river running up to the present.

Year	Permits Issued
1979	27
1980	42
1981	45
1982	59
1983	86
1984	78
1985	66
1986	64
1987	62



Growth in the number of operators continued until it reached a peak of 86 permittees in 1983. Since that time the number of commercial outfitters has declined until the present where it appears to be stabilizing.

Commercial SRP user fee revenues from these permits were initially returned to the Arkansas River to help in on-the-ground management by BLM. This funding was used to complete some of the earliest resource protection facilities at both Fishermans Bridge and Hecla Junction and included parking areas, boat ramps, and toilets. However, that practice was discontinued in 1981 by the U.S. Congress so that revenues collected were no longer available to BLM field offices. As of December 22, 1987, this has all changed. User fees are now being deposited into a special account where they become available for appropriation by the Congress to be used for on-the-ground management in subsequent years.

In 1984 the Colorado Division of Parks and Outdoor Recreation (DPOR) began a statewide outfitter licensing program. The license prescribes certain minimum requirements for each outfitter licensed. Since its inception, the license has been required by BLM as sa prerequisite for obtaining necessary commercial permits for use of public lands adjacent to the river.

In 1988, the DPOR Parks Board was given authority to regulate the manner, type, time, location, and amount of recreation and commercial use on that portion of the Arkansas River that runs from the confluence of the Lake Fork and the East Fork of the Arkansas River to the Pueblo Reservoir. This legislation is cited as the "Arkansas River Recreation Act" (H.B. No. 1253).

In addition, the DPOR administers Colorado's boating safety regulations which set certain minimal boating safety requirements, some of which apply specifically to on-river use.

E. Recreational Characteristics

The recreational character of the Arkansas River is an important factor considered in this plan. This influences the quality or nature of specific recreation activities in which users can engage. It is also a major determinant of the kinds of experiences that remain available to the public.

Three important components have been identified for use in defining the recreational character of any natural resource-based recreation area. These are the physical, social, and managerial settings in which the recreation occurs.

Physical:	This relates to the resource itself and considers the area's remoteness and accessibility, its degree of naturalness, and both the amount and type of land improvements or developed facilities.
Social:	This refers to people that use the area. It includes both numbers and types of contacts with others as well as evidence of their use.
Managerial:	This defines how the area and its users are being managed and includes the amount of on-the-ground visitor management controls, the kinds of regulations in effect, multiple-use management practices, and types of vehicles allowed in the area.

Six different recreational character classes have been identified, using the above three components. Any area can be classified into one or more of these classes depending on the character of the land itself, its use by the people, and how it is being managed. Illustration I-2 graphically describes these classes.

Each of the six different segments of the Arkansas River has been classified into one or more of these classes based on variations in its physical, social, and managerial setting. Illustration I-3 depicts these classifications, showing what the river's recreational character was in 1981 as well as the changes that have occurred as of 1987 due to increasing recreation use and management.

In segment one, from Leadville to Buena Vista, increasing use has changed the area's social characteristics. The same is true in segment two, from Buena Vista to Salida. Recreational characteristics of segment three, from Salida to Vallie Bridge have remained virtually unchanged. More intensive management of the increasing recreation use on segment four, from Vallie Bridge to Parkdale, has resulted in a different classification of the managerial setting. Neither the physical, social, nor managerial characteristics of segment five, from Parkdale to Canon City, and of segment six, from Canon City to Pueblo Reservoir, appear to have changed appreciably since 1981.

ILLUSTRATION I-2

1987 BOATING USE ESTIMATES

Segment Number	Segment Name	Total No. Visits (%)	% Commercial	% Private
1	Leadville to Buena Vista	3,900 (3)	10-15	85-90
2	Buena Vista to Salida	66,000 (50)	70-80	20-30
3	Salida to Cotopaxi	10,300 (8)	60-75	25-40
4	Cotopaxi to Parkdale	37,000 (29)	70-80	20-30
5	Parkdale to Canon City	15,000 (11)	65-75	25-35
6	Canon City to Pueblo Reservoir	---	--	--
		132,200 (100)	67-74	26-33

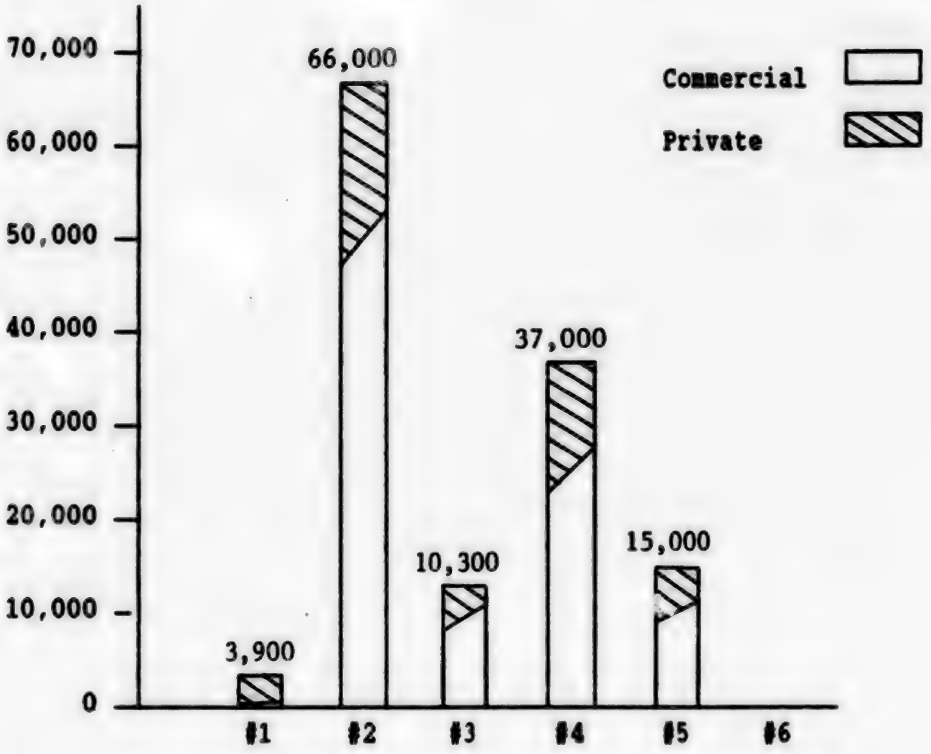


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ILLUSTRATION I-3

RECREATIONAL CHARACTER CLASSES

Almost no Management/Extremely Low Visitor Use/Very Remote, No Facilities

Intensively Managed/Very Heavy Visitor Use/Very Accessible, Facilities Dominate

I. Back Country	II. Walk-In	III. Semi-Primitive Motorized	IV. Roaded Open Country	V. Highway-Rural	VI. Developed-Urban
PHYSICAL CHARACTERISTICS (Land and Facilities):					
An undisturbed natural environment with few to no facilities.	A largely undisturbed natural environment with few facilities, hardly noticeable.	A largely undisturbed natural environment, providing few facilities, hardly noticeable.	A modified landscape, retaining its natural appearance and providing rustic facilities to protect the land and to ensure visitor safety.	A substantially modified landscape having both manmade and natural features, providing several facilities to manage and accommodate greater numbers of users.	Landscape dominated by roads and recreation facilities which are numerous and accommodate more intensive and specialized types of recreation activities.
SOCIAL CHARACTERISTICS (Visitor Use and Its Evidence)					
Very few to no contacts with other people and very little evidence of others.	Few but some contacts with other people and little but some evidence of other users.	Few but some contacts with other people and little but some evidence of other users.	Moderate use occurs so that contact with others is expected but not continual, with neither common nor dominant evidence of other users.	Moderate concentration of users and frequent, even continual, contact with others, with the evidence of other users being common.	High concentration of users and large numbers of people within the area and nearby, with evidence of other users being dominant.
MANAGERIAL CHARACTERISTICS (Management of the Land and Facilities, the Visitors and Other People):					
Almost no visitor management controls or regulations. Free of all land uses that noticeably affect the landscape. No motorized use is allowed.	Only a few visitor management controls or regulations are noticeable. Free of most land uses that noticeably affect the landscape. No motorized use is allowed.	Only a few visitor management controls or regulations are noticeable. Free of most land uses that noticeably affect the landscape. Motorized use occurs, usually only off-highway vehicles.	A moderate amount of visitor management controls and regulations are noticeable. Law enforcement personnel are sometimes visible. Land uses like grazing may be evident. Regular auto use as well as off-highway vehicle use occurs.	Several visitor management controls and regulations are very noticeable. Law enforcement personnel are moderately visible. Land uses like grazing, mining, and water developments may be present. Regular highway vehicles are allowed and common.	Numerous visitor management controls and regulations are in effect. Law enforcement personnel are highly visible. Intensive land uses may dominate the landscape. Regular highway vehicle use is allowed and is a dominant feature of the landscape.

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RECREATION CHARACTER CLASSES
On the Arkansas River: 1981-1987
(Changes occurring between 1981 and 1987 are circled)

River Segment		Back Country	Walk -In	Semi-Primitive Motorized	Roaded Open Country	Highway Rural	Developed Urban
#1 - Leadville to Buena Vista	Along the River Corridor Itself			S →	P → Ⓢ M		
	At Intensively Developed Recreation Sites						
#2 - Buena Vista to Salida	Along the River Corridor Itself				P S → M	→ Ⓢ	
	At Intensively Developed Recreation Sites				P S → M	→ Ⓢ	
#3 - Salida to Vallie Bridge	Along the River Corridor Itself					P S M	
	At Intensively Developed Recreation Sites					P S M	
#4 - Vallie Bridge to Parkdale	Along the River Corridor Itself				M →	P S → Ⓜ	
	At Intensively Developed Recreation Sites				M →	P S → Ⓜ	
#5 - Parkdale to Canon City	Along the River Corridor Itself				P S M		
	At Intensively Developed Recreation Sites				P S M		
#6 - Canon City to Reservoir	Along the River Corridor Itself			P S M			
	At Intensively Developed Recreation Sites						

* Note: P = Physical Characteristics (Land and Facilities)
S = Social Characteristics (Visitors and People)
M = Managerial Characteristics (Management of the Land and Facilities, of Visitors and Other People)

ILLUSTRATION I-4

CHAPTER II
PURPOSE AND NEED FOR ACTION

A Recreation Area Management Plan for management of recreation use occurring on public lands adjacent to the Arkansas River was completed by the Bureau of Land Management (BLM) in 1982. While several elements of that plan have been implemented in the form of facility maintenance and improvements and visitor information materials, there is still much to do. But much has changed, and the plan has become outdated.

Recreation visitation just for boating use alone has doubled, although the net increase in numbers of commercial outfitters has increased only slightly. In recent years, user conflicts and congestion, concerns for visitor safety, resource deterioration, sanitation problems and the like have been growing concerns of both BLM managers and users alike. The Arkansas River has now become perhaps the best known and certainly the most heavily used whitewater recreation resource within the State of Colorado and within the entire region.

A common misconception about BLM's role on the river has been that it is the primary manager of recreation use on the river. Yet public lands administered by the agency constitute only about 40 percent of the river's shoreline from near Granite, just south of Leadville, to Parkdale, just west of Canon City. Several other agencies and governmental bodies a strongly influence what happens on the Arkansas River.

The Colorado Division of Parks and Outdoor Recreation (DPOR) licenses all commercial river outfitters in the state. In addition, DPOR administers Colorado's boating safety laws and regulations, some of which apply to river boating. The Bureau of Reclamation exercises a major influence through making periodic upstream water releases from the Fryingpan-Arkansas water storage project. The Colorado Division of Wildlife controls the character of fisheries and wildlife in and along the river. The Division also has several leases for public fishing along the river.

Both Chaffee and Fremont Counties play major roles in providing for river search and rescue. In addition, these counties work cooperatively with the State of Colorado in administering the river closure provisions of the State Boating Safety Regulations.

Due to growing economic contributions of Arkansas River recreation, most of the cities, towns, and communities adjacent to the river are becoming increasingly interested in helping meet the needs of the river's recreationists. A number of efforts are now underway by these municipalities to enhance river boaters' experiences through improving public access to the river as well as through providing support services, facilities, and other amenities.

Still other major sections of shoreline along this important recreation resource are independently managed by private landowners. Several of these provide fee access to and from the river for commercial outfitting companies. In other instances, commercial river outfitters themselves or their associations have purchased shoreline. In other cases these companies and even private boater associations have leased access to the river from private landowners.

Because of the diversified land ownership pattern along the river, it has become very difficult for BLM to manage river recreation on its own, even on those segments which lie primarily or wholly on public lands. The numerous access points from other lands along the river contribute to the presently chaotic, competitive, and sometimes dangerous environment on the river. The problem extends beyond the public lands being managed by BLM. Essentially all segments of the river experience visitor use or resource protection problems, and what occurs on one segment affects others.

The Arkansas River planning effort began in Autumn 1986. As part of its normal budget development process, BLM identified the need for an update of its Arkansas River Recreation Area Management Plan which was originally prepared in September 1982. In doing so, it appointed a task force to advise BLM in the planning effort.

Early in 1987, the commercial river outfitting industry initiated coordination meetings with BLM and DPOR. As a result of those meetings, the need for closer coordination between the two agencies was identified and both entered into a statewide umbrella cooperative agreement (No. CSO-232). That agreement provides for BLM and DPOR to cooperate in various aspects of river management and planning, wherever such actions would be mutually advantageous.

The Arkansas River is one such area. In carrying out the intent of the statewide agreement, BLM's Royal Gorge Resource Area entered into a supplemental agreement with DPOR's South Region and 14 other agencies and governmental entities during the Spring of 1987. As the new cooperators and BLM's task force met during 1987 to strategize and plan the future management of the Arkansas River, a recommendation was made that a single entity should manage the river. The task force recommended DPOR. During November and December, BLM and DPOR jointly conducted a series of public meetings in the upper Arkansas Valley and around the state. Those meetings likewise registered public support for DPOR to be the one manager responsible for Arkansas River recreation. While some users and interest groups expressed qualified reservations, the overall tone of public comment was to proceed with the plan.

To further the process, on January 22, 1988, a Memorandum of Understanding (MOU) was signed between the Bureau of Land Management and the Colorado Division of Parks and Outdoor Recreation which committed both agencies to cooperate in developing a river recreation management plan and to participate in a public review process. This memorandum provides for this plan's preparation through a DPOR management and development proposal, formulated around multiple-use resource management objectives furnished by BLM, considering identified user needs and preferences, and be evaluated, along with appropriate alternatives, by an accompanying environmental assessment. This combined plan and environmental assessment meets those requirements.

Concurrent with signing of the January 22, 1988, MOU, the Colorado State Parks Board appointed an 18-member (later modified to 22-member) Arkansas River State Recreation Area Advisory Committee. The committee was made of up organizations that had expressed substantial interest in the future of recreation management on the Arkansas River. The Advisory Committee recommended to the Board, following Committee discussion and a majority vote, that the four additional members be added. The organizations seated on the Committee are as follows:

Subcommittee A

- Colorado River Outfitters Association
- Western River Guides Association
- Colorado Wildlife Federation
- Colorado Trout Unlimited
- National Organization for River Sports
- Colorado White Water Association
- High Country River Rafters
- Colorado Environmental Coalition
- Rocky Mountain Boy Scouts of America
- FibArk, Inc.

Subcommittee B

- City of Salida
- Cities of Canon City/Florence
- City of Buena Vista
- Chaffee County Riverfront Landowner
- Fremont County Riverfront Landowner
- Colorado Water Congress
- Municipal Water Interests (Aurora, Colorado Springs, and Pueblo)
- Upper Arkansas Water Conservancy District
- Chaffee County Cattlemen's Association
- Fremont County Cattlemen's Association
- Local Private Campgrounds
- Upper Arkansas Area Council of Governments

Ex Officio Members

- Colorado Division of Parks and Outdoor Recreation
- Colorado Division of Wildlife
- Bureau of Reclamation
- Bureau of Land Management
- BLM Task Force

The Committee held its initial meeting on February 19, 1988 in Salida. At that meeting the Committee was organized into two subcommittees, one of which represented recreation-user organizations, the other representing valley residents, local government entities, business owners, and water interests. Subsequent meetings of either the full committee or the two subcommittees were held in Salida (March 2), Howard (March 9), Buena Vista (March 23), Salida (March 30), Canon City (April 6), Buena Vista (April 11), Pueblo (April 23), Salida (April 27), and Buena Vista (May 11).

The Management and Development Proposal (Chapter IV) assembled by the DPOR-appointed Arkansas River Advisory Committee represents a great deal of time, energy, and commitment by the members of the Committee.

The following list summarizes the principal issues being addressed by the Arkansas River Recreation Management Plan.

Access

> The extent to which user satisfaction may be achieved is limited in part both by a lack of legal and physical access to the river. Another aspect of access deals with the issue of user conflicts and crowding which have the potential of blocking user access to an area for desired types of recreation use.

Allocation

This refers to direct regulation of use through the placement of limitations on numbers and types of recreation users, periods of use, use areas, and so forth. It consists of the allotment of use among competing types of users--for river boating, generally among commercial and private users, and the rationing of use within those sectors. Allocation is generally employed as a last resort when indirect management techniques become ineffective in keeping use within carrying capacity limits to be prescribed by management objectives.

Boundaries

Size of the Arkansas River recreation area is another issue to be addressed by this plan and includes not only the length of the river corridor but also its width. The issue concerns the extent of public lands involved as well as potential for other public lands (e.g., municipalities, other agencies, and so forth).

Carrying Capacity

Carrying capacity is the amount and type of recreational use an area can accommodate without altering either the environment or the user's experience beyond the degree of change deemed acceptable by the management objectives for the area. Management objectives adopted for the Arkansas River determine acceptable upper limits of use for which the river is to be managed. Often misunderstood, carrying capacities are not determined by the composition or volume of current use. Instead, they are determined directly by management decision as an expression of the type of recreation to be provided.

Crowding

This is a subjective issue and relates to the feeling which users have about the actual presence of other users and the evidence of that use. It can only be measured directly from users themselves, most commonly through on-site user preference surveys. Such surveys were conducted on the Arkansas River during the summer of 1987, some of which replicated an earlier 1981 study in order to assess trends.

Economic Development

The river is a significant recreation area and has the potential for making a major contribution to tourism and economic development in the Upper Arkansas River Valley. Future management will have a direct bearing on both local and regional economies.

Enforcement

There is a need for integration of law enforcement activities of the several governmental entities involved in providing for river user safety and protection of the resource itself.

Funding

An adequate and stable funding mechanism is essential for implementing the plan's provisions--for resource protection, visitor services, facility development and maintenance, access and easement acquisition.

Jurisdiction

Several government entities and agencies, at various levels--local, state, and federal--have jurisdiction over different segments and different aspects of the Arkansas River. Yet none have complete jurisdiction over the entire area.

Legislation

During plan preparation, passage of Colorado House Bill 1253 filled a major jurisdictional void by granting the Colorado Division of Parks and Outdoor Recreation (DPOR) on-water recreation management authority for the entire river segment under consideration.

Natural Resources

The Bureau of Land Management is the principal natural resource manager in the area, having management responsibility for public lands adjacent to the river. But the Bureau of Reclamation, the Colorado Division of Wildlife, U.S. Forest Service, and the DPOR--especially with passage of H.B. 1253, also have a significant role in the management of the area's natural resources. Natural resources of the Arkansas River are the principal reason for its appeal, beauty, and attractiveness to both Coloradans and non-residents alike.

Private Lands

Much of the land along the Arkansas River is under private ownership (approximately 60 %). The preservation of private landowner rights is a major issue.

Public Lands

The term "public lands" in its narrowest context means that portion of the original public domain which is administered by the Bureau of Land Management. In a somewhat wider context, it includes all natural resource-related lands that are open to the public for outdoor recreation use and enjoyment. From an even broader perspective, it would include the municipal lands open for public use and enjoyment. All three contexts are important in this plan.

Quality of Experience

The quality of the experience is determined in large part by the recreational character of the river and the types of activities available to users. This character quality is comprised of the physical resource itself (lands and facilities), social characteristics (recreational visitors and other users), and the management scheme (how the land and its visitors are managed).

Safety

All aspects of public safety on both land and water are addressed in order to ensure that this basic user need is provided for in the most effective and efficient manner possible. This includes natural hazards as well as hazards presented by visitors themselves.

Search and Rescue

Coordination of search and rescue efforts among agencies and local governments is addressed to ensure maximum service and benefit to the public and the maintenance of high quality outdoor recreation opportunities.

Threatened Species

Some species of plants and animals within the planning area are listed as endangered or threatened and need special attention.

Trash and Sanitation

Existing sanitation facilities are inadequate, both for refuse and human waste disposal. The need for litter control along the river corridor is also an issue.

Trespass

With the majority of shoreline adjacent to the Arkansas being under private ownership, users often find it difficult to know exactly where and how to legally access the river, and the shoreline from the river. This issue involves identifying ways of instilling a proper use ethic among visitors which respects landowner rights, providing appropriate signing and other information materials, and enforcement.

User Fees

The issue of how to assess and collect user fees efficiently and equitably needs addressed. Also related is the question of proper disposal of resulting fee revenue.

Water Quality

River water quality affects all users. It involves not only mineral pollution, such as heavy metal contamination resulting from upstream historic mining operations, as well as the potential for biological contamination from users themselves.

Wilderness

The Brown's Canyon Wilderness Study Area lies immediately adjacent to and east of the river near Ruby Mountain and Hecla Junction. Determined to be suitable for addition to the national system, the area is now under interim management policy protection of the Bureau of Land Management.

Decisions on the following issues are not being made as part of the Arkansas River Recreation Management Plan:

Reservoirs

The issue of damming of the Arkansas River is a vital concern to most recreation users, as the location of any future reservoir would affect the nature of available recreation opportunities. The issue of Reservoir development cannot be addressed within the scope or authority of the River Recreation Management Plan. Reservoir development would be addressed only through specific proposals which would be subject to the NEPA process at the time they are formally proposed.

Water Flows

The level of water flow of the Arkansas affect all users and the resource itself. These flows are determined by needs of water right holders that provide for agricultural, industrial, and residential users. The manipulations, therefore, of waterflows are not within the scope or authority of the River Recreation management Plan.

Wild and Scenic River Designation

Concerns have been expressed about the river's potential as an addition to the National Wild and Scenic Rivers Preservation System as it was identified in the National Park Service's National Rivers Inventory as having outstanding qualities. The question of the river's suitability for Wild and Scenic River Designation can only be addressed in the upcoming Resource Management Plan which is scheduled to begin in 1989. The issue is beyond the scope and not within the authority of the Recreation Activity Plan, however, it is anticipated that nothing will be included within this plan that would jeopardize any potentials for future designation.

CHAPTER III
ADMINISTRATION

A. Geographic and Land Area: Scope of Effort

The 1982 Recreation Area Management Plan (RAMP) that was developed by the Bureau of Land Management (BLM) addressed only management of public lands adjacent the river, from Leadville to Parkdale. Substantial growth in recreational use of this river since that time has brought many others into the picture, including other agencies, local governments, and private as well as commercial users and interest groups. Furthermore, the interrelatedness of the river resource is such that what happens on certain segments of the river clearly affect what happens on other segments. Particularly sharp increases in river floatboating use over recent years has demonstrated that neither BLM nor any other of the managing entities can independently provide recreation management adequate to meet public recreation visitors' needs.

Therefore the geographic scope of the plan includes the entire river corridor between the town of Leadville and Pueblo Reservoir. Generally, this includes the surface of the river itself and all public lands presently administered by BLM which lie between the highway and railroad. Wherever the river is not bounded on both sides, another definite boundary has been identified (see Chapter V). The scope of the effort also includes other lands and easements which are proposed for acquisition to accomplish management objectives. Some of these may simply be for purposes of gaining better access to and from the river. Others may be to accommodate recreation facility developments.

B. Time Horizons Addressed by the Plan

Normal recreation area management plans are based on the needs for a 10-year period following approval of the plan. However, due to the changing nature of recreation visitation, and rapid growth in recreation use, a revision or update of this plan should be scheduled within eight years following its approval. However, this does not preclude changes to the plan earlier than eight years if other implementation, monitoring data, and assessment of effect of management actions are not meeting plan objectives.

C. Applicable Mandates

1. Federal Land Policy and Management Act of 1976 (FLPMA)

The principal policy provision guiding this and all public land management is the Federal Land Policy and Management Act of 1976, or FLPMA. Among other things, Section 102 of FLMPA provides that the public lands be managed on the basis of multiple use and sustained yield and be retained in Federal ownership. Section 202 of FLPMA provides that those land use plans be developed with public involvement and consider such things as present and potential public land uses, the relative scarcity of the values involved, short-term vs. long-term benefits, and that they be developed in coordination with State and local governments.

2. National Environmental Policy Act (NEPA)

Compliance with the National Environmental Policy Act of 1969 is also required for this effort. This document is a combined recreation management plan and environmental assessment (EA). The purpose of an environmental analysis is to allow BLM managers to compare alternatives, analyze impacts and to determine whether to prepare an environmental impact statement or finding of no significant impacts. The environmental analysis also serves to inform managers about the environmental effects of a range of alternatives, to secure public comment on those options, and thus guide decisions made on the final plan.

3. Conformance with Land Use Plan (Amendment Under FLPMA)

Recreation use and visitor use patterns along the Arkansas River have changed substantially since October 26, 1979 when the current land use plan, the Royal Gorge Management Framework Plan (MFP), was completed. Demand and need for facilities has greatly increased. The MFP included some general goals and objectives, and a few specific developments, but is insufficient from an overall guidance standpoint. Of particular concern is the growth in whitewater boating, including questions about allocating recreation use along the river. While the goals, objectives, and implementing actions set forth in this recreation management plan are not altogether inconsistent with the MFP, there are numerous additions and the development specifics are in much greater detail. The management and development proposal set forth in this plan would change the recreational character of certain river segments from what was envisioned in the MFP. The MFP also did not set specific recreation management objectives which are now required by current BLM policy and are the basis for determining carrying capacities. Recreation and Public Purposes (R&PP) leases must be determined to be suitable during the land use planning process. The land use plan (MFP) is in need of amendment for these reasons. The plan amendment is an integral part of this recreation plan and utilizes the same public participation process for both tasks.

4. National Wild and Scenic Rivers Act

Portions of the Arkansas River were included in the National Park Service's Nationwide Rivers Inventory of 1982. From Pine Creek downstream to Canon City, the river was identified as being a significant free flowing river. The 1982 list provides a primary database for potential additions to the National Wild and Scenic Rivers (NW&SR) system. Some have asked that this plan include evaluation of the river's NW&SR potential. However, current guidance for BLM directs that this determination be accomplished through BLM's resource management planning process, not in the development of recreation management plans such as this (See also Chapter II).

Here is why. The study process involves as three-step assessment including a determination of eligibility, classification, and suitability. By applying USDI-USDA guidelines (see Federal Register, September 7, 1982), a determination is made as to whether a river is free-flowing and possesses "outstandingly remarkable" values and is therefore eligible. Secondly, using the same guidelines, a river is classified, by segment, into one of three categories specified in the Wild and Scenic Rivers Act: wild, scenic, and/or recreational. The final determination is one of suitability which must be made within the context of an analysis of multiple use alternatives. These are the basis for development of resource management plans. This evaluation will therefore be deferred to scheduled development of the Royal Gorge Resource Management Plan which will begin in 1989; that plan will supersede the present land use plan, the 1979 Royal Gorge Management Framework Plan.

5. Administrative Procedures Act (APA)

The Colorado Administrative Procedures Act (APA) has no direct bearing on this plan itself, but will come into effect in the process through which the State Parks Board promulgates regulations. This will come into effect as regulations are promulgated to implement H.B. 1253. In addition, if a CMA between BLM and DPOR to implement the completed plan is entered into as is now envisioned, the APA would come into effect as additional state regulations are promulgated for DPOR management of affected public lands.

Opportunity for public comment on proposed regulations is provided for in writing, through notice published in the Federal Register and orally, at the State Parks Board meeting where the Board acts on the proposed regulations. At DPOR's discretion, additional opportunity may be provided for public involvement as it initially formulates proposed rules.

D. BLM Recreation Regulations and Policy Requirements for Plan Content

Recreation regulations for the public lands are set forth in Title 43 of the Code of Federal Regulations, Part 8300. This sets forth objectives for management of all public lands and includes the following:

- To provide access to the public lands for those who wish to use them, to minimize conflicts among users, and to prevent damage to natural resources by recreation activities. (43 CFR 8300.0-2)

- To protect the resources of the public lands, to promote safety of all users of those lands, and to minimize conflicts among various users of those lands. (43 CFR 8340.0-2)

- To ensure that public lands, including recreation areas, sites and facilities, can be used by the maximum number of people with minimum conflict among users and minimum damage to public lands and resources. (43 CFR 8365.0-2)

- To establish a permit and fee system for certain recreation uses of lands and waters administered by the Bureau. (43 CFR 8372.0-2)

Additional recreation management policy guidance from the Director, BLM, is in manual guidance. This requires that public lands remain open and available to all recreation uses except where incompatible uses need to be limited or closed because of resource degradation, visitor health and safety problems, or user conflicts. To provide for intensive management areas like the Arkansas River, those policies also require preparation of recreation area management plans like this one. That planning guidance requires that recreation management objectives be stated in terms of Recreation Opportunity Spectrum or recreation character classes and include carrying capacities where necessary to resolve identified issues. Those carrying capacities are to be set in management plan decisions. The Colorado State Director's policy supplements this Bureauwide guidance by requiring that these plans identify specific recreation activities and the character classes within which they are to be made available. State Director policy also requires that the adequacy and appropriateness of BLM's minimum fee structure is evaluated through the planning process, identifying a preferred user fee structure for both dispersed and recreation site use (Bureau Manuals 8300, 8322, H-8372-1; Federal Register, Friday, February 10, 1984; and Colorado BLM Manuals 8300 and 8322).

E. Management Authorities and H.B. 1253

BLM exercises its authority for management of recreational use by administering river access to rivers on the public lands. As an adjacent landowner, it has no authority to manage on-water use of the rivers themselves. This management approach is effective in those areas where BLM-administered lands form the principal ownership pattern. However, it is ineffective in areas of fragmented ownerships, such as along the Arkansas River. BLM is not the principal landowner along the Arkansas River corridor; it administers less than 40 percent of the shoreline acreage. The remainder of the lands are mostly under private ownership. Therefore, BLM's ability to comprehensively manage recreational use of the river is greatly diminished.

Under Colorado law, shoreline owners do not manage the river surface itself; their authority stops at the water's edge. Moreover, Colorado law does not authorize the owners of adjoining property to prohibit boating use on rivers and streams flowing over their property. While BLM does issue permits for commercial use of the public lands adjoining the river, such permits cannot control total river use since use originating on nonpublic lands does not fall under BLM's jurisdiction.

Others also help manage and influence the recreational character of the Arkansas River. The Bureau of Reclamation exercises a major influence in the river's recreational character through periodic upstream water releases from the Fryingpan-Arkansas water storage project. The Colorado Division of Wildlife also influences river recreation opportunities through wildlife and fisheries management actions. Both Chaffee and Fremont Counties play major roles in providing for river search and rescue. In addition, these counties work cooperatively with the Colorado Division of Parks and Outdoor Recreation (DPOR) in administering the river closure provisions of the State Boating Safety regulations. DPOR also administers the licensing of commercial river outfitting and guiding industries. However, DPOR's river management authority has been limited to managing the commercial river outfitting industry and to providing for on-river boating safety.

Numerous private landowners influence the recreational character of the river by independently managing several miles, in fact the majority, of river shoreline. Some of these provide fee access to and from the river for commercial outfitting companies. In other instances, commercial river outfitters themselves or their associations are the shoreline administrators.

All of this paints a very complicated though realistic picture of numerous management authorities, often independent and unrelated, each exerting some kind of influence on the recreational character of the Arkansas River. Some of this influence has a positive impact on the public (e.g., facilities to accommodate use, promotion of user safety, etc.), and some has a negative impact (e.g., congestion and crowding, litter and noise, private land trespass, etc.). Yet, prior to House Bill 1253, none of the managing entities, including BLM or DPOR, could independently or cooperatively ensure that this important river resource continues to provide quality recreation to Colorado and its visitors.

With the passage of Colorado House Bill 1253 on April 21, 1988, there is legislation that now grants Colorado DPOR authority to regulate the manner, type, time, location, and amount of recreational use on the Arkansas River from its confluence with the Lake Fork to the Pueblo Reservoir (also see I-D).

F. Agreements for the Present Planning Effort

A cooperative agreement (CA) (BLM No. CO-050-8300-6) jointly initiated by BLM and DPOR with 14 other agencies and local governments in 1987 continues to be a driving force in the developing an integrated and comprehensive river recreation management plan through maximum coordination of all river management actions. The Cooperators include:

Canon City District Office
Bureau of Land Management

Colorado Division of Parks
and Outdoor Recreation

Chaffee County
Board of Commissioners

Fremont County
Board of Commissioners

Colorado Division of Wildlife
Southeastern Region

Bureau of Reclamation
Eastern Colorado Projects
Office

Forest Service, USDA
Pike & San Isabel National
Forests

Lake County,
Board of Commissioners

Town of Buena Vista

City of Salida

Town of Poncha Springs

City of Canon City

City of Leadville

City of Florence

City of Pueblo

Pueblo County
Board of Commissioners

This CA provides for several things. Through it, all cooperators mutually agree to:

1. Work together as a cooperative river recreation planning team.

2. Coordinate the planning effort with a task force representing key user and interest groups concerned with the future of recreation management on the Arkansas River.

3. Identify major recreation management issues on six separate river segments.

4. Formulate alternative management scenarios.

5. Prescribe recreation management objectives and management actions.

6. Select a preferred management proposal.

7. Establish concrete coordinating linkages to promote administrative efficiency.

8. Recommend possible solutions to remaining management voids.

A second agreement, a Memorandum of Understanding (MOU), was signed between BLM and DPOR on January 22, 1988, to further the cooperative planning effort that was initiated by the earlier agreement. Based on the recommendations of the task force which had been assembled by BLM and more clearly indicating both agencies' intent, this MOU was needed for several reasons:

1. To develop and agree on a planning procedure to be followed both by BLM and DPOR in the development of the Arkansas River Recreation Management Plan.

2. To consider DPOR as the future management entity for river recreation.

3. To recognize that BLM will enter into a cooperative management agreement with DPOR as the principal management entity for river recreation, provided that there is continued public support for this action in the final plan.

The term "continued public support" relates to public support for DPOR to be the Arkansas River recreation manager which was indicated in a series of public meetings held in November and December, 1987 (see also Chapter II for further explanation).

G. Potential Implementing Instruments

The Federal Land Policy and Management Act of 1976, or FLPMA, provides in Section 307 that Cooperative Management Agreements may be entered into for the management, protection, and development of public lands. Section 212 of FLPMA amended the Recreation and Public Purposes Act of 1926 (R&PP) which provides for long term leases of public lands for recreational uses.

1. Cooperative Management Agreement (CMA):

Under a CMA, ownership and jurisdiction of the public lands would remain with BLM, the DPOR would provide recreation management services while BLM continues managing other multiple use resources. No interest in the Federal estate would be transferred. Lands would remain open to operation of the public land laws, including those for mineral location and leasing. All uses provided for in the CMA would remain subject to valid existing rights.

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2. Recreation and Public Purposes (R&PP) Lease:

Under a R&PP lease, jurisdiction for management of recreation use of the public lands would be leased to the DPOR. A detailed plan of development would be required, specifying the type and level of development, improvements, and management to ensure that the types of uses specified in this plan actually occur. Ownership of the public lands involved would remain with BLM. Should the land not be used in a manner consistent with the plan, the lease could be revoked and jurisdiction of affected lands would revert back to the Federal government. The lease would authorize DPOR to collect state-authorized user fees on leased lands. BLM would not retain any authority to collect fees. User fee revenue collected would remain with DPOR but it would not necessarily be obligated by this instrument to expend revenue generated on the Arkansas River. DPOR could assess additional user fees relating to its surface management responsibilities for the river itself under H.B. 1253, irrespective of the lease's other fee provisions. The R&PP lease would be subject to all valid land or mineral interests (e.g., grazing, locatable mineral, withdrawals, rights-of-way, and so forth). A Notice of Realty Action, however, does segregate the area from further appropriation. Yet this lease would also be subject to concurrence by other agencies already having withdrawals in the area (e.g., Bureau of Reclamation and/or Federal Energy Regulatory Commission water power withdrawals). DPOR could be in a more secure position for protection of any capital construction improvements because the specified lease period would provide time over which to amortize these investments.

Recreation and Public Purposes lease regulations are found at 43 CFR 2740 and 2912. Issuance of a R&PP lease must satisfy the objective of meeting "the needs of certain state... agencies... for public lands required for recreational and public purposes". Approval of leases is not made unless the public lands are to be used for an established or definitely proposed project. No public lands having national significance can be conveyed (transfer of legal title) but leases may be entered into. Terms and conditions; to assure proper development, protect the Federal property, and to protect the public interest; are required to be contained in the lease. Please refer to Illustration V-8 for a listing of proposed R&PP leases under this plan.

3. A Combination CMA/R&PP Lease to Implement the Plan

At the writing of this plan, it is anticipated that a combined Cooperative Management Agreement (CMA) that includes a Recreation and Public Purposes (R&PP) leases would best meet all legal requirements and cooperatively implement the plan design. This combination would best meet public intent of providing effective management of the river and associated public lands resources through a partnership arrangement between BLM and the Colorado DPOR. It would provide DPOR with needed authority and responsibility to manage river-related public lands recreation in the planning area without being encumbered with responsibilities to ensure continued management of other multiple uses on these lands. This BLM would continue to do.

At the same time, this combination ensures that the public is not disenfranchised from the public lands management process as provided for in the Federal Land Policy and Management Act of 1976. The BLM-DPOR partnership arrangement which a combination CMA/R&PP lease envisions sees both agencies working in concert throughout the life of the cooperative management agreement.

The plan envisions that a small public lands R&PP lease would be entered into at eight of the most intensive recreation site developments proposed in the plan. These include the following:

Segment #1: Leadville to Buena Vista

- Railroad Bridge

Segment #2: Buena Vista to Salida

- Fisherman's Bridge
- Ruby Mountain
- Hecla Junction

Segment #3: Salida to Vallie Bridge

- Rincon

Segment #4: Vallie Bridge to Parkdale

- Pinnacle Rock
- Five Points
- Parkdale

Specific identification of the public lands that would be involved in the CMA, as well as of the eight R&PP lease tracts within those lands, are depicted in Chapter V along with alternatives to the proposal.

4. Other Agreements

The plan includes a variety of management actions requiring the action of several of the above authorities for implementation. This section of the plan deals with administrative matters between principal managers of the river and adjacent public lands, that is BLM and the Colorado DPOR. The agreement and leases being discussed in this section involve only those two agencies. Other plan cooperators may also choose to enter into management agreements to facilitate plan implementation; any definitive statement on such further cooperative management agreements are premature and cannot yet be made.

5. CMA Content

a. BLM's Continuing Role

The requirements of the Federal Land Policy and Management Act of 1976, or FLPMA, apply not only to this plan's development but also to its implementation. As the name implies, a CMA is in fact a partnership management arrangement between the participating parties, in this case DPOR and BLM. BLM will have a continuing role in the management of recreation use on this river which will be spelled out in the CMA in specific terms. FLPMA requires BLM to remain involved in the management of these lands. This continuing role will include such things as the monitoring of recreation use and the assessment of its relationship to the public lands resources as well as to management objectives spelled out in this plan Each of the following sites identify other areas where BLM's continuing role needs to be identified in the CMA.

b. Plan Amendments--Conditions and Procedures

Section B above sets forth a time horizon of eight years for this river recreation management plan. Depending on the visitor use monitoring efforts provided for in the plan, this plan will need to be revisited and most likely be amended. This does not mean that the only management actions which may be undertaken are specifically identified in the plan. Not all developments can be specifically identified. The type and degree of use envisioned in the plan, however, will govern management objectives and recreation opportunity prescriptions. Management actions other than these will require a plan amendment. These would include such things as changes in carrying capacities; changes to the use patterns and volumes specified in this plan; resulting changes in the type, location, or degree of resource, visitor, or facility management; and so forth.

c. Development of Regulations by DPOR--Procedures

Section C above outlines the overall Administrative Procedures Act requirements related to promulgation of DPOR river management regulations. Since those regulations will have a very direct bearing on the partnership agreement between BLM and DPOR, and no specific provisions exists within APA procedures for coordination with other agencies, the CMA will outline a specific process for coordinating the development of those regulations with BLM to ensure its input into the process in advance of the initial filing of the proposed regulations with the Office of Regulatory Reform and the Secretary of State by DPOR.

d. Continuing Committee/Task Force Involvement

The CMA will specify minimum acceptable requirements for the composition, size, and function of a continuing task force advisory to DPOR and BLM. It will also address the specific relationship of the work group to BLM and DPOR.

e. Procedures for Implementing Allocations: Allotment and Rationing

BLM policy already sets forth specific guidance on how to make use allocations, once carrying capacities have been reached and all indirect measures to accomplish intended management objectives have been exhausted. While the plan specifies carrying capacities and the percentages of use to be allotted to commercial and private boaters, it does not address the rationing process.

Public land policy requires that all allocations follow these goals:

Manageability--allocation methods must be workable, implementable, defensible to users, and within legal and budgetary constraints.

Flexibility--the method used must be responsive to the relative amount of use and to demand shifts.

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Fairness and Equity--to the greatest extent possible, for all concerned.

Maximization of experiences and allowable use

Minimization of resource impacts and user conflicts

The Handbook also specifies that methods for allocating use may include, but are not limited to:

1. Lottery - After applicants are screened to meet minimum standards, e.g., safety and past performance, those remaining applicants may be awarded a permit by a lottery system.

2. Historical Use - Assign the number of user days according to historical use records. This is defined as the average of the highest two seasons in the preceding 5-year period.

3. Competitive System - After standards for desired services are established, invitations to submit proposals either by open bid or matching bid by existing permittees are extended to all operators through news releases, Federal Register notices, and direct mailings. The proposals are then evaluated against the standards. Those who rank the highest are awarded a permit and a specific number of user days (any calendar day, or portion thereof, for each individual accompanied or serviced by an operator or permittee on the public lands).

Standards include, but are not limited to: (a) financial capability, (b) management experience, (c) employee's experience, (d) safety experience and training, (e) previous performance evaluations, (5) type and condition of equipment, (g) ability to meet desired user service needs, and others as appropriate.

Other BLM policies which must be adhered to when making allocation decisions are set forth in BLM Handbook H-8372-1 and Instruction Memorandum No. 87-690, or the most current guidance required at that time.

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Illustration 3-1

The Council on Environmental Quality specifies procedural requirements for all EISs but allows agency discretion in the guidelines to be used in preparing EAs. The following table outlines BLM's guidelines for developing routine EAs and comprehensive EAs along with procedural requirements for all EIS'. Compare similarities and differences.

Process	Routine EA	Comprehensive EA, Arkansas River	EIS
Interdisciplinary Team Approach	Prepared by one or few individuals with a brief but adequate interdisciplinary review.	Prepared by an interdisciplinary team with detailed review.	Prepared by an interdisciplinary team with detailed review.
Public Involvement	Informal	Formal	Formal
Requires Assessing Cumulative Impacts	Yes	Yes	Yes
Preparation Plan	No	When Appropriate, Completed	Yes
Notice of Intent Required	No	No	Yes
Public Scoping Required	No	When Appropriate, Completed	Yes
Impact Analysis (Significance)	Exploratory	Exploratory	Pre-Identified or Pre-Determined
Draft and Final Document Required	No	When Appropriate, Scheduled	Yes
Public Review of Draft	No	When Appropriate, Scheduled	Yes
Filing with EPA	No	No	Yes
Notice in Federal Register	No	When Appropriate, Completed	Yes
Formal Public Hearings	No	When Appropriate, Scheduled	When Appropriate
Waiting Period After Decision	No	When Appropriate, Scheduled	Yes
Can be Prepared by Non BLM Source	N/A	Yes	Yes

Can be Referenced	Yes	Yes	Yes
Signature Authority for Decision	AM/DM	DM, SD, or WO; Will be DM*	DM/SD/WO/ Department*
Responsibility for Internal Review	AM/DM	DM/SD, Will be both*	DM/SD/WO/ Department*

*Note: DM = BLM District Manager, SD = BLM State Director, WO = Washington Office BLM, and Department = Department of the Interior

Illustration 3-2
Cooperative Management Options between the Bureau of Land Management and Colorado Division of Parks and Outdoor Recreation to Implement the Arkansas River Recreation Management Plan

Factor	Cooperative Management Agreement	Recreation and Public Purposes Lease
Jurisdiction	Remains totally with BLM, Specifies services to be performed by the Colorado DPOR and BLM for certain surface resources. No interest in the Federal estate is transferred.	Surface lease rights transferred to the Colorado DPOR. Under certain circumstances, the BLM may retain management responsibilities (e.g., grazing rights-of-ways, and so forth).
Minerals Management:	Locatable minerals subject to mining claim location.	Mineral estate remains in Federal ownership.
User Fees:	Allows DPOR to collect BLM Special Recreation Permit fees; all fees must be returned to BLM. DPOR may not impose use fees for use of lands or facilities.	DPOR may collect all state-authorized fees for use of land and facilities. BLM has no authority to ask for or retain any of these fees.
Rental:	No rental--jurisdiction of the public lands rests with the BLM.	FLPMA exempted all historic and recreational leases from rental fees (formerly $.25/acre, minimum of $10.00/lease/year).
Relation to Other Land Uses:	Open to operation of the public land laws, locatable mineral leasing laws.	Subject to any valid land or mineral interests existing on date Notice of Realty Action is published, which will thereafter segregate the land from appropriation under the public land laws, including the mining laws, but not mineral leasing laws.
Withdrawals:	Must have concurrence of all withdrawing agencies or parties of interest that management objectives and use are not in conflict with their valid rights. Withdrawing agency may impose terms.	Subject to leasing with concurrence of withdrawing agencies. Withdrawing agency may impose terms.

Illustration 3-2 (page 2)

Factor	Agreement	R&PP Lease
Protection:	No protection for investment. CMA may be cancelled by either party upon written notice. Open to uses (e.g., grazing, mining claims, etc.).	Historically, very secure. Plan of development controls improvements. Segregated from all forms of appropriation.

Other

Under the R&PP Act the land is generally leased with the option to patent--this option is not considered here since such action would unnecessarily fragment management of the river, and the public voice in management of these important resources through the planning process as provided for in FLPMA would be cut off as would be BLM's responsibility and authority to ensure that management consistent with this plan's provision continues.

Upon submission of a complete R&PP lease application or Section 302 FLPMA lease proposal by DPOR, with an emphasis on an acceptable detailed plan of development and management, anticipate 4 to 6 months to process.

- Assumptions: The RAMP also serves as a plan amendment - the plan amendment and the Notice of Realty Action timeframes can run concurrently. There is also no protest to the Notice of Realty Action.

Requirements for making a lands analysis:

- Status of all withdrawn lands by other agencies, including BLM withdrawals by serial number, Public Land Order, and legal description.
- All mining claims by CML and legal description.
- Grazing leases
- Mineral leases

CHAPTER IV
PROPOSED ACTION

This is the Management and Development Proposal developed by the Arkansas River Recreation Advisory Committee. It was submitted to the Bureau of Land Management (BLM) by the Colorado Division of Parks and Outdoor Recreation (DPOR) on May 20, 1988. The original document consisted of a series of management goals, each with its own set of management objectives and implementing actions and is included in the Appendix. Goals in the original document are labeled with Roman numerals, objectives with the upper case alphabet, and implementing actions with standard numerals; all items in this chapter are keyed back to that document using the same designators for those who wish to reference back to the original document (see brackets behind each implementing action).

The proposal was reformatted into the following structure in order to bring all common elements together for the purpose of facilitating its review and analysis in this plan. What follows is a two-part chapter. The first part consists of all goals and corresponding objectives--first those of an area-wide nature and secondly those segment-specific. The second part consists of actual planned actions--again, first those applying to all six river segments and then the actions which are specific each river segment.

The real detail of the proposal is explained by implementing actions in the second half of the chapter. But because this is a strategic plan, its objectives are particularly important in setting the stage for what is to happen. This is because the strategic nature of the plan is not simply an assessment of the status quo and a projection of future management needs on the basis of what has happened in the past. Instead, the plan expresses a vision for what the future character of the river and its associated recreation opportunities are to be including visitor services to be provided and the nature and intensity of management needed to make it happen. The resulting plan may therefore differ sharply from what is there today.

The most important prerequisite for such a plan is a set of clear management objectives. What follows are a series of goals and objectives that were developed by the Arkansas River Recreation Advisory Committee. Generally, goals are broad statements of management intent which refine agency policy and mission statements. Objectives are one step more definitive, specific statements that establish accountability for doing something.

Objectives are just that--objective statements that express what is to be, apart from personal reflections or feelings that are determined by the mind as the subject of experience. When properly written, objectives serve a very vital function. They distill management concerns into measureable things to be done. Thus they promote mutual understanding about what kinds of recreation resources, public recreation use, and enabling management are to occur. Moreover, once the plan is completed, good objectives serve as standards of control to help monitor progress.

Objectives provide an essential framework for all plan actions. They are signposts to direct all plan actions and ensure that they are aimed at accomplishing specific intents and purposes. Thus they help "weed out" potentially conflicting and superfluous plan elements.

At least four characteristics of good objectives have been identified. Good objectives are:

Specific: they explain what is to happen and where it is to occur.

Output Oriented: they focus on what is to be accomplished rather than on how to accomplish it.

- they address desired results instead of management inputs needed to get there.

Quantifiable: they are objectively (not subjectively) measureable.

- they are very easy to quantify (numbers, problems, $, etc.). and when written explicitly communicate management intent, limit management subjectivity (i.e., flexibility) and promote public accountability

Attaintable: they are realistically achievable but not unduly constrained.

Time-Bounded: they include time-frames which establish accountability and serve as a measure of progress

- time-bounded characteristics of this plan are not incorporated within these objectives, but are instead included in the following section in implementation-phasing.

1. ALL SEGMENTS, AREA-WIDE GOALS

I. GOAL

Instill a wise river and public land use ethic for all users regarding river etiquette, respect for private lands, outdoor ethics, etc.

A. Objective

Develop an educational/interpretive program for use at all appropriate developed sites, to instruct users about resource use, special or unique aspects of the resource, outdoor ethics, and/or user etiquette.

II. GOAL

Minimize adverse effects of recreation use and reduce conflicts between users related to Arkansas River recreation use and management between recreationists, other land users, and public and private land owners.

A. Objective

Reduce problems of river recreation user trespass on private lands, especially in relation to river access.

B. Objective

Protect the rights of other public land users and uses to continue to utilize the public resource for a variety of multiple uses on public lands both within and adjacent to the Recreation Area's boundaries.

C. Objective

Gain a better understanding of the needs and requirements of landowners, both public and private along the river.

D. Objective

Protect the rights and property of the railroad throughout the river corridor where the line is within the boundaries of the Recreation Area.

III. GOAL

Protect consumptive water user's rights and structures (e.g., work with irrigation districts, municipalities, etc.) while considering the water needs of recreationists.

A. Objective

Ensure existing and future water uses consistent with the Colorado State Constitution and statutes.

IV. GOAL

Recognize that highways and county roads provide the primary, and in some cases the only, means of access for residents into the area; for recreationists and other who use this area, transportation impacts need to be identified and addressed.

A. Objective

Work with the Highway Department to recognize all Federal and State roads as an important component to the Recreation Area.

B. Objective

Work with local communities and the Governor's office to improve coordination and cooperation between State Parks and the Highway Department, especially as related to appropriate State and Federal Highways as an integral component of the Recreation Area.

C. Objective

Ensure that operation of the Recreation Area fully recognizes the importance of local and county government entities in road maintenance to visitor access and use.

V. GOAL

Provide law enforcement capabilities and visitor services that are adequate to provide for protection of private property and visitor safety as well as to fulfill management prescriptions in the plan.

A. Objective

Provide adequate law enforcement in key areas consistent with other goals and objectives (e.g., user health and safety, cooperation with local law enforcement agencies, and resource protection).

B. Objective

Provide adequate on ground and on river law enforcement authority and manpower to ensure that visitor management actions specified in the plan are properly implemented and consistent with the specific managerial objectives being established for each river segment.

C. Objective

Pursue and implement cooperative agreements with local, county, federal, and other state, agencies to provide adequate visitor services (Wildfire, Emergency Medical Services, Search and Rescue Operations).

VI. GOAL

Provide facilities in the amount, location, and character needed to provide reasonable visitor safety and meet user needs appropriate to the types of recreation being provided.

A. Objective

Provide facilities on a segment by segment basis.

VII. GOAL

Protect the environment (to the maximum extent possible while simultaneously allowing for a diversity of recreation opportunities).

A. Objective

Monitor the environmental impacts of recreation use along the river, and annually review trends and status.

B. Objective

Work with the DOW, BLM, and the Highway Department, to reduce the number of deer kills along the corridor, and especially in Segments 3 and 4.

C. Objective

Work to improve/develop the water quality through proper sanitation maintenance (sewage control) and facility design.

D. Objective

Park activity should not cause a change in the existing stream classification that would result in the upgrading of waste water treatment not otherwise required.

VIII. GOAL

Assist local and state historical societies to note and sign significant points of interest along the park corridor.

A. Objective

Where possible incorporate significant historical information at pull-offs and appropriate areas.

IX. GOAL

Protect federal and state-listed plants and animals, that are threatened, endangered, or listed as special consideration species (as provided by law), along the river corridor and likely to be affected by the Recreation Area.

A. Objective

Provide for the conservation of federal-listed and state-listed plants and animals, that are threatened, endangered, or listed as special consideration species (as provided by law), in the planning area.

B. Objective

Ensure that critical habitats of threatened, endangered, and species of special concern, as provided by current statutes, are managed and/or conserved to maintain or expand their existence.

C. Objective

Ensure that the Browns Canyon Wilderness Study Area remains an area for outstanding opportunities for solitude.

X. GOAL

Respond to the needs of a variety of river recreation users by cooperating with local communities, and providing avenues for stimulating local economic development by providing greater resource protection, visitor services, and facility management actions.

A. Objective

Involve local communities in the identification of recreation user needs.

XI. GOAL

Ensure that services and developments proposed for the Recreation Area are consistent with those provided in other State Park and Recreation Areas, as provided by law.

A. Objective

Provide services at all developed sites (based on the following objectives nad implementing actions).

XII. GOAL

Implement and collect user fees, based on a user pay philosophy, that are returned to the recreation area.

A. Objective

Require all users to pay an appropriate amount for use of the resource, the recreation opportunities provided, and the recreation experience.

B. Objective

Ensure that collected fees are returned to the resource and the local area.

C. Objective

Provide facilities and services for the visitors who paid the fees, at least at a level equal to the fees collected.

XIII. GOAL

Define future decision making process

A. Objective

Management priorities will be determined by DPOR based on the Recreation Area Plan, funding appropriations and other available resources. The first year of plan implementation will primarily include studying resource and visitor characteristics, installing appropriate signage, providing visitor education, and responding to safety needs.

2. ALL SEGMENTS, MULTIPLE USE GOALS

I. GOAL - LIVESTOCK USE

Provide for continued utilization of forage, water and trailing at current use levels through the planning area, except at intensively developed sites where enclosures are needed to prevent user-livestock conflicts, provided that allotment management needs for livestock watering will be met.

II. GOAL - WILDLIFE MANAGEMENT

Provide for continued wildlife habitat protection and improvement project. Mitigate conflicts between recreation users and wildlife species to ensure their continued existence.

Protect bighorn sheep habitat, and prevent user conflicts between bighorn sheep and recreation users.

Prevent conflicts between recreation users and other terrestrial and aquatic wildlife species.

III. GOAL - FISHERIES MANAGEMENT

Provide for continued protection of fisheries and aquatic habitat and for improvement projects to reduce impacts from increasing river recreation use, fluctuations of flows, and possible changes in water quality (e.g., existing heavy metals problems, potential additional sedimentation stemming from developments, etc.). Ensure compatibility of sports fishermen with other recreation users.

IV. GOAL - THREATENED AND ENDANGERED SPECIES

Provide for the conservation of Federally and State-listed plant, animal, aquatic ecosystems, and plant associations that are rare endemic, and threatened in the planning area. Ensure that crucial habitats of threatened, endangered, and sensitive species are managed and/or conserved to maintain or expand their existence.

V. GOAL - WILDERNESS MANAGEMENT

Protect the primitive values of the adjacent Browns Canyon Wilderness Study Area (WSA), and maintain existing opportunities for primitive and unconfined types of recreation.

VI. GOAL - FORESTRY

Maintain existing forestry resources to enhance recreation opportunities but not for consumptive uses.

VII. GOAL - CULTURAL RESOURCES

Protect cultural resources from vandalism and development, both within and immediately adjacent to the planning area.

Build an awareness and appreciation of cultural and natural history resources through visitor services (e.g., interpretation, information, etc.).

VIII. GOAL - VISUAL RESOURCES

Ensure that all facility developments are visually harmonious with adjacent environs.

IX. GOAL - MINERALS

Minimize conflicts between fishermen, river boaters and recreational gold panners and suction dredgers so that both valid uses can co-exist. Recognize valid existing and future commercial mining operations.

X. GOAL - LAND USE/REALTY

Provide for valid existing rights and accommodate public needs for new utility rights-of-way within the planning corridor.

Retain public lands within the corridor in public ownership, except as necessary to accomplish management objectives outlined in this plan (e.g., through lease), and acquire additional parcels through exchange which are needed to accomplish objectives.

XI. GOAL - SOIL AND VEGETATION

Stabilize natural and man-caused soil erosion and vegetation loss at developed recreation sites and other high-use areas. Incorporate wise soil and vegetation conservation practices into all new development projects.

XII. GOAL - WATER

Protect in-stream water quality by providing adequate human and solid waste disposal facilities at all intensively used recreation sites.

XIII. GOAL - AIR

Maintain air quality standards throughout the corridor and, in addition, maintain visibility standards adjacent to the Browns Canyon Wilderness Study Area constrained by BLM's interim management guidelines.

3. SEGMENT-SPECIFIC GOALS AND OBJECTIVES

Segment #1: Leadville to Buena Vista

I. GOAL

Maintain the "highway rural" physical and managerial characteristics, but restrict visitor use consistent with the segment's "roaded open" social prescription.

A. Objective:

Ensure that by 1992, resources are managed consistent with the following prescriptions:

Physical (Land & Facilities)
Manage for a substantially modified landscape having both manmade and natural features, providing for several specialized facilities (described below) for user convenience and to accommodate a number of users.

Social (Visitors)
Allow moderate concentrations of users, frequent contact with others is to be expected.

- In Subsection B, restrict commercial launches to a maximum of 90 boats. (II-B-4)(See also Proposed Action, 2-c)

- Allow daily peak capacity use of 310 private and 90 commercial boats in Subsection B. (II-B-7)

- Any allocation caused by a need to reduce the total use of boaters in Subsection B will be 78 percent private boats and 22 percent commercial boats. (II-B-8)

- The ratio of private to commercial boats in Subsection C will be 200 private to 200 commercial. (II-B-11)

- Site Capacities (re. DPOR:)

Site Capacities (re. DPOR:)	Boats /Day	Boats /Hour	BAOT	PAOT
- Above Rapid #4 (PI*)	180	23	6	65
- At RR Bridge (PI/TO**)	160	20	5	50
- At Frog Rock (PI/TO)	205	26	7	75

* PI = Put Ins
** TO = Take Outs

Managerial (Agency/Intergovernment Management)
Implement several visitor management controls and regulations, including permits for all overnight camping users. Law enforcement personnel are moderately visible. Land uses like grazing, mining, and water control structures may occur. Regular highway vehicles and off highway vehicle (OHV) use occurs and is common.

II. GOAL

Maintain this segment's outstanding capability for kayaking, white water canoeing, rafting, and fishing while preventing significant user conflicts from occurring.

A. Objective:

Maintain the high quality of private kayaking, with fishing and rafting allowed, over the course of a use season and reviewed annually.

B. Objective

Recognize inherent differences in both resource character and resulting user needs on three distinct Subsections:

Subsection A

Leadville to Granite--manage primarily for fishing use.

Subsection B

Granite to the bottom of Rapid #6--manage primarily for private boating use and secondarily commercial boating use and fishing, May 1 to September 1.

Subsection B

Bottom of Rapid #6 to Buena Vista boat ramp--provide equally for all types of boating, fishing and other uses.

III. GOAL

Work to improve the quality of natural resources, especially in relation to water quality, fisheries, and related and dependent resources.

A. Objective

Use the limits of acceptable change methodology, Code-A-Site campsite inventory and modified Frissel classification scheme along the river corridor on a periodic basis beginning in 1989 to monitor resource conditions and trends. Include environmental, safety, and quality of recreation experience factors.

B. Objective

Manage recreation use along the corridor to protect the existing quality of the resources and recreation opportunities.

C. Objective

Cooperate on heavy metal pollution mitigation procedures with all involved agencies/organizations to speedily improve water quality and reduce heavy metal pollution in the Arkansas.

D. Objective

Annually work with Division of Wildlife and Colorado Trout Unlimited on specific actions to improve the quality of fishing in this segment.

E. Objective

Develop recreation facilities, especially sanitation facilities, at one public land site in Subsection A, two public land sites in Subsection B, and one public land site in Subsection C by 1992.

Segment #2: Buena Vista to Salida

I. GOAL

Maintain the existing "roaded open country" physical and managerial characteristics and the "highway-rural" social character of the Brown's Canyon river corridor, but manage river access points under the "highway-rural" prescription.

A. Objective

Ensure that by 1992, resources are managed consistent with the following prescriptions:

River Corridor:

Physical (Land and Facilities)
Maintain a modified landscape, retain its natural appearance, and provide only rustic toilet facilities to protect the land and provide for visitor safety at boating and fishing access sites.

Social (Visitors)
Allow moderate concentrations of users and frequent, even continual, contact with others, contact is to be expected.

Provide for use in Subsections A, B, C, and D under the following guidelines:

- Allow peak daily capacity use on weekends and holidays of 705 boats, 470 commercial and 235 private boats, to occur no more than 5 days each season (see Minority Reports section). (III-A-1)

- Allow peak daily capacity use on weekdays of 560 boats, 370 commercial and 190 private boats, to occur no more than 5 days each season. (III-A-2)

- Exceeding weekday or weekend peak capacity 5 times/season will cause allocation of those periods to occur with commercial boaters allocated at their peak capacity of 470 boats on weekends and 370 boats on weekdays and private boaters allocated at 235 boats on weekends and 190 boats on weekdays. Allocation would occur the following season. (III-A-3)

- If allocation is triggered, the ratio of use will be based on a 2/3:1/3 split (commercial to private) on all days. (III-A-5)

Provide for use in Subsection E under the following guidelines:

- Allow peak capacity use of 90 boats per day, 5/16 - 8/1, 1/3 private and 2/3 commercial (re. DPOR.see also III-A-9).
- All boating use in subsection E will be restricted to 15 boats (of all types) per hour after August 1 to May 15 pending annual review of boat traffic flowing through Mt. Shavano boat chute. (III-A-9)
- Promote E primarily for fishing use. (III-A-10)

Managerial (Agency/Intergovernment Management)
Visitor management controls and regulations are noticeable. Enforcement personnel are visible. Land uses like grazing are evident. Regular auto, bus, and OHV use occurs only at a few areas along the corridor.

Developed Sites:

Physical (Land & Facilities)
Manage for a substantially modified landscape with both man made and natural features, providing several specialized facilities for user convenience and to accommodate greater amount of use for boating, fishing, and other uses.

Social (Visitors)
Allow moderate concentrations of users and frequent, even continual, contact with others; evidence of others is commonplace.

- Site Capacities (re. DPOR:)	Boats /Day	Boats /Hour	BAOT	PAOT
- At Buena Vista (PI*)	200	33	8	65
- (Misc, fishing) (PI)	30			
- (Pvt land launches) (PI)	295			
- Fishermans Bridge (PI)	150	25	6	50
- Ruby Mountain -				
- boat access (PI/TO**):	230	--	--	--
- lunch stops:	108	48	36	255
- Centerville-				
- lunch stops:	18	N/A	6	50
- camping:	25	N/A	25	150
- Lunch stops in Browns Canyon WSA (4 sites):	9	N/A	3	25
- Lunch stops between Railroad Bridge & Hecla Junction (10 sites):	18	N/A	6	50
- Hecla Junction (TO)	625	78	20	350
- Seidel's/Stone Bridge (TO)	80	10	3	18
- Big Bend (PI/TO)	168	28	7	120

* PI = Put Ins
** TO = Take Outs

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Managerial (Agency/Intergovernmental Management)

Implement several visitor management controls and regulations, including camping fees for all overnight camping users. Law enforcement personnel are moderately visible. Land uses like grazing, mining, and water control structures may occur. Regular highway vehicles and OHV use occurs and is common.

Management of the physical, social, and managerial prescriptions will be built around the design capacity. (I-A-4)

II. GOAL

Recognize inherent differences in both resource character and resulting user needs in this segment for the following subsections:

Subsection A

Buena Vista to Fishermans Bridge; NOTE: Recognize the number of residences along this subsection, and the need to protect private property owners' rights and quality of life.

Subsection B

Fishermans Bridge to Ruby Mountain; NOTE: Recognize that some private residences are located along here, and that livestock operations are very prevalent.

Subsection C

Ruby Mountain to an undefined point below Seidel's but above the Stone Bridge; NOTE: Recognize the public lands predominant in this area and that it is the premier setting for river recreation opportunities for many users.

Subsection D

Above Stone Bridge to Big Bend (until a site is developed upstream); NOTE: This segment includes opportunities for primarily flat water floating into Salida and quality fishing, but again includes a number of residences and some livestock operations.

Subsection E

Big Bend (until a site is developed upstream) to Salida.

A. Objective

Emphasize protection of private landowner and property rights. Protect residents' rights and sensibilities, especially in subsection A. B, D, and E. Include protection of livestock owners' interests.

44

III. GOAL

Provide a diversity of recreation opportunities, while recognizing this segment's high level of attraction for commercial boating opportunities, and the potential for user conflicts.

A. Objective

Provide primarily for commercial use, secondarily for private boating use, thirdly for fishing use, and finally for other uses.

B. Objective

Work to reduce user conflicts through educational programs and management.

C. Objective

Work to enhance boating opportunities through development and improvement of boater access areas, launch sites, and undeveloped campsites, to maintain the character specified in the previous goals and objectives.

IV. GOAL

Utilize educational and environmental interpretation programs to help instill a wise river use and public lands use ethic for all users regarding river etiquette, outdoor ethics, etc., as well as a greater respect for adjacent private property owners and other users' rights.

A. Objective

Initiate an educational/interpretive program to educate recreation users concerning river and land etiquette.

B. Objective

Focus on teaching respect for private land owner rights and responsibilities and livestock owners' rights and concerns segment-wide.

C. Objective

Develop an educational/interpretive program for use at all developed sites, including all scenic highway pull-offs fishermen access points and other places where users may congregate to instruct users about resource use, special or unique aspects of the resource, outdoor ethics, and/or user etiquette.

V. GOAL

In addition to other resource protection goals, monitor and resolve resource deterioration problems specific to this segment, especially those resulting from unmanaged recreation use.

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A. Objective

Identify and protect unique natural areas in this segment, especially wetlands.

B. Objective

Resolve resource deterioration problems in Brown's Canyon caused by a proliferation of unmanaged day use/overnight sites along the river.

VI. GOAL

Recognize the unique characteristics and requirements of the Brown's Canyon Wilderness Study Area (WSA), and provide continued public access to that area consistent with BLM's prescriptions.

A. Objective

Implement an interpretive program of brochures and Ranger talks preserving the integrity of the Browns Canyon Wilderness Study Area (WSA) while maintaining public access.

B. Objective

All development along the corridor adjacent to the Wilderness Study Area should be consistent with preserving the integrity and special characteristics of that area.

Segment #3: Salida to Vallie Bridge

I. GOAL

Manage for wildlife values and recreation within the existing "highway-rural" setting prescription.

A. Objective

Ensure that by 1992 resources are managed consistent with the following prescriptions.

Physical (Land and Facilities)--
Manage for the existing substantially modified landscape having both manmade and natural features, providing several roadside day-use facilities, keeping some fairly primitive and other intensively developed to accommodate greater numbers of visitors and protect the resources for fishing, boating, wildlife viewing, and picnicking activities.

Social (Visitors)--
Allow moderate concentrations of users and frequent even continual, contact with other users: Evidence of others is commonplace.

- Limit to 300 boats per day from May 15 to August 1. Allocation shall be 50:50 commercial/private. Provide exceptions for special events, such as FIBARK in June.

- Boating will be restricted to 10 boats per hour August 2 through Labor Day weekend and 50 boats per day after Labor Day weekend to May 15. (See Minority Reports Section) This includes instructional and training use. (II-A-2)

- Site Capacities (re. DPOR:)

Site Capacities (re. DPOR:)	Boats /Day	Boats /Hour	BAOT	PAOT
- Salida (PI*/TO**)	108	12	4	150
- Salida East (PI/TO)	96	12	3	100
- Rincon (PI/TO)	300	38	9	80

* PI = Put Ins
** TO = Take Outs

Managerial (Agency/Intergovernment Management)--
Implement several visitor management controls and regulations including permits for all commercial boaters and all developed sites (excepting wildlife viewing pullouts). Law enforcement personnel are moderately visible. Land uses like grazing as well as mining and water control structures may be present. Regular highway vehicles and OHV use occurs and is common.

II. GOAL

Manage recreation for a diversity of recreation opportunities, while maintaining and improving this segment's capabilities as a high quality trout fishery.

A. Objective

Maintain/Improve high quality trout fishing. Work with DOW on specific actions to improve quality of fishing.

III. GOAL

Recognize this segment's non-boating recreation opportunities, especially for activities such as wildlife viewing.

A. Objectives

Allow for an increased emphasis on non-boating recreation opportunities through the development of fishing, wildlife viewing, picnicking and other opportunities.

IV. GOAL

Work to reduce highway/user safety problems.

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A. Objective

Reduce highway/user safety problems at the intersections of the highway with various routes to the river spurs and pullouts at Salida East, Rincon, Cottonwood Rapids, and Badger Creek, if feasible, and others as appropriate.

Segment #4: Vallie Bridge to Parkdale

I. GOAL

Maintain the existing "highway-rural" character of the corridor itself, but manage the more intensively used river ingress and egress areas under the "developed urban" prescription.

A. Objective

Ensure that by 1992 resources are managed consistent with the following prescriptions.

River Corridor

Physical (Land and Facilities)
Manage for the existing substantially modified landscape having both manmade and natural features, providing several roadside day-use facilities, keeping some fairly primitive and others intensively developed to accommodate greater numbers of visitors and protect the resources for fishing, boating, wildlife viewing, and picnicking activities.

Social (Visitors)
Allow moderate concentrations of users and frequent, even continual contacts. Continual evidence of others is common.

Subsection A

- Allow a total peak capacity of 200 boats. 70% commercial and 30% private. (II-A-3)
- Restrict boat launches to 30 boats per day, August 15 to May 15 on a first-come, first-served basin (see also Chapter V-2-C) (II-A-4)

Subsection B

- Allow a total peak capacity of 300 boats, 70% commercial and 30% private. (II-A-7)
- Restrict boat launches to 30 private boats per day, August 15 to May 15 on a first-come, first-served basin (see also Chapter V-2-C) (II-A-8)

Subsection C

- Allow a total peak capacity of 600 boats, 70% commercial and 30% private. (II-A-11)

- Restrict boat launches to 50 commercial boats per day, Labor Day to May 15 on a first-come, first-served basin (see also Chapter V-2-C) (II-A-12)

Managerial (Agency/Intergovernment Management)
Several visitor management controls and regulations including permits for all commercial boaters and all developed sites (excepting wildlife viewing pullouts). Law enforcement personnel are moderately visible. Land uses like grazing as well as mining and water control and OHV use occurs and is common.

Developed Sites

Physical (Land & Facilities)
Manage for roads, manmade facilities, and recreation opportunities dominating the landscape, provide numerous facilities to accommodate more intensive and specialized activities.

Social (Visitors)
Provide for a high concentration of users and large numbers of people within the area and nearby. Evidence of other users being dominant.

- Site Capacities (re. DPOR:)	Boats /Day	Boats /Hour	BAOT	PAOT
- Cotopaxi (PI*/TO**)	96	16	8	175
- Lone Pine (PI/TO)	150	20	9	200
- Texas Creek (PI/TO)	60	8	4	100
Maytag (PI/TO)	60	8	4	100
Pinnacle Rock (PI/TO)	238	28	11	350
Salt Lick (PI/TO)	36	12	3	50
- Five Points (PI/TO)	150	25	10	350

* PI = Put Ins
** TO = Take Outs

Managerial (Agency/Intergovernment Management)
Provide numerous management controls and regulations. Law enforcement personnel are highly visible. Intensive land uses may dominate the landscape. Regular highway vehicle use is allowed and a dominant feature of the landscape.

II. GOAL

Accommodate the greatest increase in river recreation use in this segment, consistent with the management prescriptions, and while providing a wide variety of recreation opportunities.

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A. Objective

Recognize inherent differences in both resource character and resulting user needs on three distinct Subsections:

Subsection A

- Vallie Bridge to Lone Pine - Provide for primarily fishing use and secondarily boating use. (II-A-1)

Subsection B

- Lone Pine to Pinnacle Rock - Provide for all activities equally. (II-A-5)

Subsection C

- Pinnacle Rock to Parkdale - Provide for primary boater use and secondary fishing use. (II-A-9)

B. Objective

Maintain and improve, through cooperation with BLM, DOW, and Colorado Trout Unlimited, and other appropriate agencies, the quality of fishing throughout this segment.

C. Objective

Allow for an increased emphasis on non-boating recreation opportunities through the development of wildlife viewing, picnicking, and other opportunities.

D. Objective

Work to improve private boating opportunities by improving and developing new access points where needed.

E. Objective

Work to improve commercial boating opportunities by improving access/egress points, lunch stops, and improved recreation opportunities along this segment.

III. GOAL

Reduce or eliminate significant user safety problems, especially those with vehicular traffic along the highway.

A. Objective

Work with the Highway Department, Railroad, or any other appropriate parties, to improve visitor safety at all developed sites and at all pull-offs and lookout spots. Have signs erected for the 1989 use season.

Segment #5: Parkdale to Canon City

I. GOAL

Maintain the existing "semi-primitive motorized" physical character and provide for "roaded open country" social and managerial character along the river corridor, excepting primary access points which will be managed as "developed urban".

River Corridor

Physical (Land and Facilities)
Maintain a largely undisturbed environment within the Royal Gorge providing few facilities. Recognize the diverse characteristics of this segment.

Social (Visitors)
Allow moderate on river use to occur so that contact with other river users is expected but not continual.

- Allow 300 total boats, 150 commercial, 150 private, May 1 to Labor Day, no commercial launches past Parkdale Bridge past 1:30 p.m. (III-A-1)

- When total launches exceed the 300 boats per day limit 6 times in one season, cap the amount of total use at that level. (III-A-3)

Managerial (Agency/Intergovernment Management)
Provide moderate visitor management controls and regulations. Law enforcement personnel are sometimes visible. Motorized use of the area (including trains) is evident, as are other land uses.

Developed Sites (This applies to ingress and egress points only)

Physical (Land & Facilities)
Manage for roads, facilities, and recreational opportunities. Provide facilities to accommodate activities.

Social (Visitors)
Provide for a high concentration of users and large numbers of people within the area and nearby.

- Site Capacities (re. DPOR:)	Boats /Day	Boats /Hour	BAOT	PAOT
- Parkdale (PI*/TO**)	600	81	20	142
- Canon City (TO)	300	50	12	84

* PI = Put Ins
** TO = Take Outs

51

Managerial (Agency/Intergovernment Management)

Provide necessary management controls and regulations. Law enforcement personnel are moderately visible. Intensive land uses may dominate the landscape. Regular highway vehicle use is allowed and a dominant feature of the landscape.

II. GOAL

Alert users to safety hazards along this segment and work to eliminate manmade hazards.

III. GOAL

Maintain this segments outstanding capabilities for kayaking, white water canoeing, rafting, and fishing while preventing significant user conflicts from occurring.

A. Objective

Recognize inherent differences in both resource character and resulting user needs.

IV. GOAL

Enhance river recreation opportunities in Canon City.

A. Objective

Work with city organizations to improve/develop river recreation opportunities and facilities.

Segment #6: Canon City to Pueblo Reservoir

I. GOAL

Maintain the "highway-rural" physical characteristics of this segment, while recognizing its "roaded open country" social and managerial characteristics.

A. Objective

Ensure that by 1992 resources are managed consistent with the following prescriptions.

- Physical (Land and Facilities)

Manage for the existing substantially modified landscape having both manmade and natural features, providing several roadside day-use facilities, keeping some fairly primitive and others intensively developed to accommodate greater numbers of visitors and protect the resources for fishing, boating, wildlife viewing, and picnicking activities. Motorized use of the are (including trains) is evident, as are other land uses.

Social (Visitors)

Allow moderate use to occur so that contact with others is expected but not continual, and with noticeable but not common or dominant evidence of other users.

- Allow 100 total boats daily, 50 percent commercial, 50 percent private, season long. (II-D-12)

- Site Capacities (re. DPOR:)

	Boats /Day	Boats /Hour	BAOT	PAOT
- Canon City (PI*)	96	16	4	1/
- Florence (PI/TO**)	72	12	6	125
- Pueblo Reservoir (PI/TO)	100	25	6	100

* PI = Put Ins
** TO = Take Outs
1/ PAOT depends on facilities in park

Managerial (Agency/Intergovernment Management)

Provide some visitor management controls and regulations. Law enforcement personnel are sometimes visible.

II. GOAL

Provide for multiple-use river recreation use in this segment, consistent with the management prescription, and provide a wide variety of recreation opportunities.

A. Objective

Maintain and improve, through cooperation with BLM, DOW, and Colorado Trout Unlimited, the quality of fishing throughout this segment.

B. Objective

Work closely with the Advisory Committee and Private Landowners to protect landowner rights while improving/developing the recreation opportunities for this segment.

C. Objective

Allow for an increased emphasis on non-boating recreation opportunities through the development of wildlife viewing programs, picnicking and other opportunities.

D. Objective

Allow for recreational boating opportunities.

4. ALL SEGMENTS: AREAWIDE IMPLEMENTING ACTIONS

I. RESOURCE MANAGEMENT

A. Protection

- Where flexibility in manipulating flows does exist, recognize biological requirements as the primary consideration, i.e., maintain requirements for fisheries and natural ecosystems first. (III-A-4)

- Where possible develop wildlife watering sources so that wildlife are not forced to cross the Highway for water. (VII-B-2)

- Locate sanitation facilities as far back from the river as feasible. (VII-C-2)

- Do not position portable restrooms at areas where it would be possible for vandals to dump them into the river. (VII-C-3)

- Develop appropriate measures to manage, conserve or expand the habitats of any threatened and endangered, and species of special concern, found in the area. (IX-B-1)

- Preserve the archaeological and historical values of the Brown's Canyon area. (IX-C-2)

- Make resource protection a primary consideration of all future recreational management decisions. (X-A-2)

B. Rehabilitation

- Provide staff analysis and recommendations, coordinated with BLM, for limits of acceptable change methodology. Initially, adopt the approach that when sites exceed a modified Frissell's Level 3, usage will be adjusted, if warranted, the site will be closed and regenerative actions will be taken. Based on Committee review, provide recommendations and suggested management actions to Parks Board. (VII-A-3)

II. VISITOR MANAGEMENT

- Try to provide a different set of services and a different level of development from what is provided by the private sector. (XI-A-2)

- Aim development at a different market segment than from served by the private sector; provide different services and different levels for the focus segments. (XI-A-3)

A. Visitor Information and Interpretation

- Provide information/instructions signs at all appropriate sites. (I-A-1)

- Develop and make available for distribution, brochures describing regulations, as well as ones designed to enhance visitor's outdoor ethics and user etiquette. (I-A-2)

- Focus on wildlife/environmental education at wildlife turnoffs. (I-A-3)

- Provide information about fishing regulation and etiquette at fishermen's access points. (I-A-4)

- Provide environmental education, informational signing about resource use and special aspects of the area at scenic pull-offs. (I-A-5)

- Focus on environmental education/protection (low impact use, etc.), outdoor ethics, and river user etiquette at river access points. (I-A-6)

- Provide information signing where appropriate about services, facilities, opportunities, etc., at major sites such s Buena Vista, Fishermens Bridge, Ruby Mountain, Hecla, Salida, Coaldale, Cotopaxi, Five Points, Parkdale, Canon City, and Florence. (I-A-7)

- Help the user to understand the system-wide nature and interrelatedness of the resource and the people and communities that live here. (I-A-9)

- In areas, and at times, where other uses, e.g. grazing, mining, hunting, etc., may be present, post information explaining what uses may occur. (II-B-1)

- Help develop a better understanding of the nature of lands that have federal power/water withdrawals, reserves, etc. (III-A-6)

- Provide easy access of Park Rules and Regulations to river users. Distribute such information on park brochures, bulletin boards, information boxes, and at ranger stations, local chambers of commerce, and tourist information centers. (V-A-1)

- Post Recreation Area boundaries. (V-A-2)

- Post proper signage at river segment boundaries. (V-A-3)

- Through 1992, DPOR will encourage all users to become better educated about the regulations that govern recreation use along the Arkansas, and better educated about needs and concerns of other users, residents, and interests along the river. Strict or excessive (in number) regulations will not be encouraged. (XII-A-5)

B. Indirect Visitor Control and Conflict Resolution

- Provide information about private property owners rights and public land boundaries. (I-A-8)
- Recommend that boaters use one channel, where feasible, to allow fishermen and other recreationists to use the other bank. Sign the appropriate channel and include in informational brochures, etc. (I-A-10)
- Provide maps of all public land boundaries in cooperation with the Bureau of Land Management (BLM) and local entities, to eliminate accidental trespass (work to make sure boundaries are correct and change if needed). (II-A-1)
- Sign all public-private land boundaries to reduce incidents of trespass on private lands. (II-A-2)
- Post signs along highway in cooperation with Highway Department, indicating public access points and warning people of penalties of trespass on private lands (similar to littering signs). (II-A-3)
- In particular, post private lands at highway and other locations where recreationists have typically trespassed. (II-A-4)
- Protect landowner fences along the river, while protecting the safety of boaters, especially with regard to high and low water problems with fences. (II-A-5)
- Provide information to non-recreation users of the public resource concerning the recreation uses of the area. (II-B-2)
- Focus on education and information as the preferred means to encourage recreationists to respect the rights of other users. (II-B-4)
- Minimize adverse effects on water users caused by flow scheduling for recreation purposes. (III-A-2)
- Post signs along highway, in cooperation with Highway Department, indicating public access points and warning people of penalties for trespass on private lands (similar to littering signs). (IV-A-4)
- Post private lands at highway and other locations where recreationists have typically trespassed. (IV-A-5)

C. Visitor Regulation and Enforcement

- Work to provide a system of identification that would be prominently displayed on private boater crafts. (V-A-4)

- Restrict access in the Brown's Canyon WSA to only those recreational activities typically allowed in Wilderness, consistent with the Wilderness Act. (IX-C-1)

D. Permits and Concessions

- The outfitter license program will remain the same as in past years, but will be reviewed and updated as needed by DPOR. (XII-A-1)

- DPOR will take over permitting of outfitters along the Arkansas from the BLM. (XII-A-2)

- DPOR will devise systems for collection of user fees, and for identification of recreation users, as related to recreation use within the recreation area. (XII-A-3)

- DPOR will seek to ensure that the fee system is based on equality, equity, need, and social efficiency to the greatest extent possible. (XII-A-4)

- Fees will be collected for day use and camping. (XII-B-1)

- Collected fees will be deposited in the State Parks Cash fund. (XII-B-2)

- Consistent with normal practices, fees will be returned to the Recreation Area for operation, maintenance, and development, of the area. (XII-B-3)

- Other sources of State Parks' funds will also be available to be used at the Recreation Area. (XII-B-4)

- Outfitter fees may continue to be collected, both for licensing of outfitters and permits for use of the Recreation Area. (XII-B-5)

- Outfitter fees collected for use of the Arkansas River State Recreation Area will be returned to the Area. (XII-B-6)

- During 1989, commercial outfitting fees will not exceed 3% of gross. (XII-B-7)

- Additional permit fees for use of the Recreation Area will be determined by the State Parks' Board, with recommendations by the Advisory Committee, and consistent with statutes and legislative intent. (XII-B-8)

E. Emergency Services

- WILDFIRE: Develop an emergency communication system with the BLM and county/local agencies to alert them of all wildfire emergencies. (V-C-1)

- **SEARCH AND RESCUE:** Develop an emergency communication system with the BLM and count/local agencies to alert them of Search and Rescue operations. (V-C-6)

- **EMERGENCY MEDICAL SERVICE:** Develop an emergency communication system with the BLM and county/local agencies to alert them of Emergency Medical Service operations. (V-C-9)

III. FACILITY MANAGEMENT

A. Site Development

- Where the existing grade is used by recreationists to scout rapids, gain access to fishing areas, or where possible, develop alternative routes for those activities. (II-D-2)

- Do not accept/include portable restrooms as part of the permanent sanitation development. (VII-C-4)

- Develop facilities and manage areas consistent with the physical, social, and managerial prescriptions listed for each segment. (X-A-3)

B. Maintenance

- Post and protect water diversion or storage structures. (III-A-5)

- Use the latest/best techniques available to provide proper sanitation maintenance at vault toilets (e.g., Clivus Multrum). (VII-C-5)

- Maintain sanitation facilities so that freezing and cracking do not occur. (VII-C-6)

- Work with water interests for a list of acceptable herbicides/insecticides/pesticides to be used in park maintenance operations. (VII-C-7)

- Grade all facilities so that they do not drain directly into the river. (VII-C-8)

C. Restoration

IV. ACCESS AND EASEMENT ACQUISITION

The Arkansas River State Park Advisory Committee has prioritized (into high, medium, and low, categories) the major acquisition sites that had been discussed in the Arkansas River State Recreation Area Management Plan. The Committee realizes that actual negotiating for a specific property may result in acquiring a medium or low priority site before a high priority one.

HIGH

PARKDALE - Buy or lease property downstream from BLM's Parkdale site.

SIEDELS - Acquire one, and if feasible two, public site(s) for boating, fishing and day use below Siedel's Suckhole Rapid.

RUBY MOUNTAIN - Acquire additional lands for public recreation use in the Ruby Mountain Area.

MEDIUM

CANON CITY - Acquire lands for additional boater egress from the Royal Gorge run.

BUENA VISTA - Acquire lands for additional public access.

BIG BEND - Acquire a site as an alternative put-in/take-out for run to Salida and as relief to Hecla Junction.

SEGMENT FOUR - Acquire additional lands along this segment to accommodate the greatest increase in river recreation, as well as to provide a wide variety of recreation opportunities.

LOW

MUNICIPALITIES - Acquire additional lands for greater public access.

SEGMENT THREE - Acquire additional lands for greater public access especially geared to providing access for fishermen.

SEGMENT ONE - Acquire additional lands for greater public access especially in the Pine Creek area and for fishing use in the upper stretches of the Segment (especially as it is made suitable for a viable fishery).

- Other Acquisition Specifics (re. DPOR)
    - Acquire additional lands for greater public access within the municipalities. (Medium Priority)
    - Improve fishermen access at areas designated by the Division of Wildlife. (Medium Priority)

V. ADMINISTRATION

- Operation of the area will, as much as possible, be on a user funded basis. (XII-C-1)
- Other sources of Parks' funds may also be available to be used at the Recreation Area. (XII-C-2)

A. Coordination with Others

1. Local/County Governments

- Where possible, cooperate with local communities, organizations, industries, and individuals to develop an information base about the benefits and values of the other uses of the public resource. (II-B-3)

- Work with local government organizations in a two-way relationship to keep them apprised of changes in Area management and recreation use, and to keep abreast of actions and development that they might be undertaking. (II-C-3)

- Develop cooperative agreements incorporating design review process with local and county governments in the area regarding road maintenance to Recreation Area facilities and river access points. (IV-C-1)

- State Parks will support the municipalities and counties in their efforts to obtain adequate Highway User Tax funds for road maintenance. (IV-C-2)

- Sign a cooperative agreement with local and county fire crews for additional support with range fires. (V-C-3)

- Work closely with municipalities to help improve/develop sites that are within the state park corridor. (VI-A-2)

- Work closely with counties and make recommendations on existing safety hazards. (VI-A-3)

- Work with municipalities, local organizations, Department of Health, and other organizations, to maintain water quality and ensure maintenance of existing classification. (VII-D-1)

- Work with local communities, organizations, industries, and individuals to develop an information base about the needs and requirements of recreation users. (X-A-1)

2. Private Landowners/Business Interests

- Work with private landowner groups to keep them informed about future changes in area management and recreation use. (II-C-1)

- Encourage involvement and support from private and commercial interests, including financial support. (V-C-13)

3. Bureau of Land Management, Colorado Division of Wildlife, and Other Resource Managing Agencies.

- Work with the BLM and other government land or resource management agencies to coordinate plans and actions that utilizes a system approach to management. (II-C-5)

- Work with affected agencies to develop additional funding resources to support fire suppression. (V-C-5)

- Division of Wildlife should fund a study (to be completed by 1992) of research literature to determine the effects boating has on fishing. (VII-A-8)

- Work with BLM, DOW, and other agencies to protect the existence of any threatened, endangered, and species of special concern, known to exist on nearby public lands. (IX-B-2)

4. Colorado Department of Highways

   - Encourage the Highway Department to provide information signing about services, facilities, opportunities, special rules, etc., that are available in communities along the river or where appropriate. (IV-A-1)

   - Work with the Highway Department to develop scenic turnoffs at areas designated by appropriate organizations. (IV-A-2)

   - Work with the Highway Department to provide environmental education/information signing about resources and special aspects of the area at scenic pull-outs. (IV-A-3)

   - Work with the Highway Department, Tourism Board, etc., to begin displaying the Arkansas River State Recreation Area on Highway Department road maps. (IV-A-6)

   - Seek to have the Highway Department recognize, through allocation of gas and other highway tax dollars, the importance of local highways to the accessibility and use of the Recreation Area and the importance of the area to local and economic well being and development. (IV-B-1)

5. Railroad

   - Work with the railroad to prevent trespass along rail line property. (II-D-1)

   - Work with the railroad to secure necessary access points, for river recreation use and use of other public lands, that do not interfere with the operation of the railroad. (II-D-3)

6. General

   - Provide opportunities for public comment about future changes in Area management and recreation use in local communities along the river. (II-C-2)

- Work with appropriate individuals, agencies and organizations that have a vested interest in the resources and use of the river corridor, such as water use, agricultural users, etc. (II-C-4)

- Work with water interests to help inform river recreation users of the statutes and authorizations that govern water flows along the upper Arkansas above Pueblo Reservoir. (III-A-1)

- Work with all recreation interests so that the needs and concerns of all groups may be voiced. (III-A-3)

- Implement coöperative arrangements with local county, federal, and other state, law enforcement agencies for concurrent jurisdiction (DPOR has this authority). (V-B-3)

- Include in the cooperative agreement with local, county, federal and other state agencies to provide for adequate visitor services that the appropriate agency will respond as initial attack and fire suppression crew for wildland fires on public lands. (V-C-2)

- Pursue and implement cooperative agreements for response to Search and Rescue emergencies with the appropriate local, county, federal, and other state agencies. (V-C-7)

- Work with affected agencies to develop additional funding resources to support search and rescue operations. (V-C-8)

- Pursue and implement cooperative agreements for the provision of emergency medical services with the appropriate local, county, federal, and other state agencies/organizations. (V-C-10)

- Work with affected agencies to develop additional funding resources to support emergency medical services. (V-C-12)

- Work with the Advisory Committee and interested agencies to designate specific sites within each river segment for facility development. (VI-A-1)

- Work with Colorado Natural Areas Program (CNAP), Division of Wildlife (DOW), Bureau of Land Management (BLM), Soil Conservation Service (SCS), etc., to develop baseline data on resource characteristics for all public lands not inventoried above that are within the recreation area. For example, include information about cover type, soil type, use restrictions, etc. Update this information database annually, using suitable sampling techniques. (VII-A-2)

- Work with all agencies to identify how best to alleviate the problem of deer kills along the highway, especially in Segments 3 and 4. (VII-B-1)

- State Parks will coordinate efforts from Colorado Natural Areas Program, DOW, USF&WS, etc., to identify all plants, and animals, that are threatened, endangered, or listed as special consideration species (as provided by law), that are found in the vicinity of the Recreation Area. (IX-A-1)

B. Studies and Monitoring

- Inventory all sites and shoreline locations by December 1989 using modified Frissell's classification and Code-A-Site inventory methodology to establish a baseline database of sites with evidence of human impacts. (VII-A-1)

- Conduct annual surveys to identify actual use along river, by section, and breakdown (percentages) among different river surface users, e.g., 60% commercial boaters, 15% private rafters, 25% private kayakers. Also conduct annual sample surveys of other recreationists using the area. Provide survey information to Advisory Committee and public, in conjunction with site inventories and resource analysis studies. (VII-A-4)

- Conduct user characteristics/preference studies in conjunction with the system-wide State Parks survey, generally completed every five years and next scheduled for 1988. Provide user study information to the Advisory Committee. Provide report to Advisory Committee and Parks Board with identification of trends and suggested changes in methodology. (VII-A-5)

- Review, inventory, user counts, trends and user characteristics/preferences, and determine appropriate management actions, including changes in carrying capacity, allocation and use. Amend the Arkansas River Management Plan accordingly following state and federal public review processes. (VII-A-6)

- State Parks, Division of Wildlife, and the Colorado Water Board should cooperate in studies to determine what flow schedules on the Arkansas River may most benefit recreational boating and fishing without injury to water rights owners. New and creative ways should be investigated to determine how recreational users and water owners can cooperate so that water owners and recreational users can both obtain the maximum benefits from the Arkansas River. (VII-A-7)

- Monitor sanitation problems and if necessary develop regulations to have commercial operations provide on river sanitation facilities. (VII-C-1)

- Conduct a rare and endangered resource inventory of each developed site along the river. (IX-A-2)

- Conduct a rare and endangered resource inventory of each site proposed for development in the Recreation Area. (IX-A-3)

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- Determine through simple survey methods the prevailing average price and occupancy rates of similar (substitute) services, at each level of service, from businesses in the local area (Upper Arkansas Valley). (XI-A-1)

C. Staffing

- Employ and adequate number of seasonal/full time rangers with law enforcement commissions to meet the law enforcement requirements of the area and its use. (V-B-1)

- On high use weekends and holidays, station rangers to patrol at major ingress/egress points and river rangers to patrol the area, consistent with their normal duties. (V-B-2)

- Provide law enforcement Rangers with avenues for adequate access to (additional) Park, local, county, federal and/or other state, law enforcement personnel. (V-B-4)

- Provide basic fire training to all Park personnel. (V-C-4)

- Require Park Rangers to have "CPR" and "Advanced First Aid" certification (this is already required by DPOR for Park Rangers). (V-C-11)

D. Special Equipment and Procurement - None.

5. SEGMENT-SPECIFIC IMPLEMENTING ACTIONS

Segment #1: Leadville to Buena Vista

I. RESOURCE MANAGEMENT

A. Protection

- Identify areas where erosion problems can be eliminated. (III-D-1)

B. Rehabilitation

- Reestablish fisheries and control heavy metal pollutants. (III-C-2)

- Identify specific points for stream improvement projects. (III-D-2)

- Work to reestablish a quality fishery in Subsection A. (III-D-5)

II. VISITOR MANAGEMENT

A. Visitor Information and Interpretation

- Note all subsections on maps. (II-B-1)

- Provide proper signage at beginning and end of each subsection. (II-B-2)

64

B. Indirect Visitor Controls and Conflict Resolution

- Redirect users who are not in appropriate subsection. (II-B-3)

C. Visitor Regulation and Enforcement

- Allow occasional special boating events to be scheduled in this segment. (II-A-3)

  Subsection B: Granite to the bottom of Rapid No. 6:

  - Restrict commercial launches on Weekends and Holidays, 8:30-11:00 a.m.; Weekdays, 9:00-11:00 a.m. and 1:00-2:00 p.m. (II-B-4) (see also Goal I, Objective A)

  - Commercial launches in Subsection B will be limited to 6 boats per launch. (II-B-5)

  - Private rafts may launch in Subsection B any time between 8:30-11:00 a.m. Saturdays, Sundays and Holidays, and between 9:00-11:00 a.m. and 1:00-2:00 p.m. on weekdays, and 6:00-7:00 p.m. Sunday through Thursday. (II-B-6)

  - Private hard boats may launch at any time in Subsection B (II-B-9)

  Subsection C: Bottom of Rapid No. 6 to Buena Vista:

  - In Subsection C, prohibit commercial rafting from August 15 to May 15 and limit private boaters to 40 launches (boats) per day during the same period. (II-B-10)

  - Restrict commercial and private raft launches to 9:00-11:00 a.m. and 1:00-2:00 p.m. seven days a week, in Subsection C. (II-B-12)

  - Private hard boats may launch at any time in Subsection C. (II-B-13)

- This does not preclude other recreation use. (II-B-14)

D. Permits and Concessions

E. Emergency Services

III. FACILITY MANAGEMENT

A. Site Development

- Minimize development of facilities until the level of use warrants further development. (III-B-3)

- Develop better fishermen access. (III-D-4)

- Develop sanitation facilities at Frog Rock site. (III-E-1) (Medium Priority)

- Develop toilet facilities near the Railroad Bridge. (III-E-2) (High Priority)

- Develop fishermen's access points at areas identified with DOW, BLM and other agencies. (III-E-3)

- Develop or improve boater access points at Pine Creek Rapid, Railroad Bridge, and Frog Rock. (III-E-4)

- Develop day use parking at Railroad Bridge and Frog Rock, for 30 plus cars. (III-E-5) (Medium Priority)

- Establish walk-in camping at one site in Subsection B with a common parking area, remote tent sites, sanitation and water (hand pump) consistent with Class D type camping facilities. (III-E-6) (Low Priority)

- Establish hiking and biking trails along the corridor on lands under the control or authority of the Division of Parks and Outdoor Recreation. (III-E-7) (Low Priority)

- Site Development Specifics (re. DPOR):

    - Below Crystal Lakes (on State Land Board land):
      DPOR's number one priority for fishing access and sanitation facility development in Subsection A.

    - Below Kobe (on public lands):
      Two parcels having potential for development as fisherman access between Spring Creek and Holmes Gulch.

    - At Clear Creek Reservoir (on Public Land)
      Three parcels have potential for development as fisherman access.

    - Above Rapid #4 (on public lands):
      DPOR-identified number one priority for commercial/private boater and fisherman access development in Subsection B. Also sanitation facilities.

    - Near Pumping Station (on public lands):
      Potential fishermen and boater access and support facility development.

    - Railroad Bridge (on public lands):
      Campsite and boating/fishing access. In addition to the 30 parking spaces, 30 tent sites and sanitation facilities. Also fisherman access under the railroad trestle.

- Frog Rock (on National Forest):
  In addition to the 30 parking spaces, sanitation facilities and boater put-in and take-out, but no overnight use.

B. Maintenance

C. Restoration

IV. ACCESS AND EASEMENT ACQUISITION

- Acquire additional lands for greater public access in Segment One especially in the Pine Creek area and for fishing use in the upper stretches of the Segment (especially as it is made suitable for a viable fishery). (re. DPOR) (Medium Priority)

V. ADMINISTRATION

A. Coordination with Others

- Review the investigation [on consistency with prescriptions] with the Bureau of Land Management (BLM) to make recommendations about corrective measures. (I-A-2)

- Provide results to the organizations represented on the Advisory Committee. (I-A-3)

- Have the Advisory Committee review for compliance and make suggested changes in actions. (I-A-4)

- Make recommendations to the Advisory Committee on proposed changes. (II-A-2)

- Modify Frissell classification scheme with BLM during winter of 1989 (complete by April 1989). (III-A-2)

- Review inventory and benchmarks, and make recommendations for management actions to board. (III-B-2)

- Work with agencies/organizations (EPA, USGS, DOW, CTU, Department of Health, etc.) for water quality improvements and to monitor water quality consistent with appropriate statutes. (III-C-1)

- Work with the Environmental Protection Agency to further the Super Fund activities related to the Arkansas River and tributaries. (III-C-3)

B. Studies and Monitoring

- Investigate during 1989 for consistency with all prescriptions. (I-A-1)

- Conduct user counts during boating season, i.e., access site sign-in system to assist in user count. (II-A-1)

- Conduct Code-A-Site inventory of all sites along river during 1989. (III-A-1)

- Conduct modified Frissell inventory in conjunction with Code-A-Site inventory. (III-A-3)

- Incorporate use of photos and video records as part of inventory and where substantial use occurs. (III-A-4)

- Inventory river corridor annually. (III-B-1)

C. Staffing

- Seek volunteer help in completing stream improvement projects. (III-D-3)

D. Special Equipment and Procurement - None.

Segment #2: Buena Vista to Salida

I. RESOURCE MANAGEMENT

A. Protection

- Identify and protect livestock fording places along the river, as appropriate; notify recreationists of these locations. (II-A-4)

- Protect livestock watering places from conflict with recreationists. (II-A-5)

- Protect landowner fences along the river, while protecting the safety of boaters, especially with regards to high and low water problems and fences. (II-A-6)

- Post and protect headgates and wingdams from damage by recreationists. (II-A-7)

- Limits of acceptable change benchmarks (see Segment 1) will be established for this segment. (III-B-4)

Subsection C: Ruby Mountain to Seidel's/Stone Bridge:

  - Complete boundary fence at Hecla if needed to protect resource. (III-C-28)

  - Lunch stops developed within the Browns Canyon WSA will be developed consistent with Wilderness statutes and regulations. (VI-B-1)

B. Rehabilitation

Subsection C: Ruby Mountain to Seidel's/Stone Bridge:

- Implement drainage control plan at the Hecla site. (III-C-27) (High Priority)
- Classify sites as needing significant resource repair; close sites when level 3 is passed and take corrective regenerative actions. (V-B-3)

II. VISITOR MANAGEMENT

A. Visitor Information and Interpretation

- Make information about law enforcement procedures and regulations (how to identify violators, how to contact law enforcement personnel, etc.) available to the public. (II-A-2)
- Post area warning boaters that crowded conditions may exist. (III-B-1)
- Include in all brochures a section on River Ethics outlining private-landowner and recreation user rights. (IV-A-1)
- Post access areas with posters reminding users of river ethics. (IV-A-2)
- Post boundary areas between State/BLM land and private property. (IV-A-3)
- Educate recreationists of proper user conduct through visitor displays at the Ranger station and when necessary along the river corridor. (IV-A-5)
- Provide information/instructional signs at all sites. (IV-B-1)
- Develop and make available for distribution, brochures describing regulations, as well as ones designed to enhance visitors' outdoor ethics and user etiquette. (IV-B-2)
- Provide information about private property owners's rights and public land boundaries. (IV-B-3) (High Priority)
- Help the user to understand the system-wide nature and interrelatedness of the resource and the people and communities that live here. (IV-B-4)
- Provide information about fishing regulations and etiquette at fishermen's access points. (IV-C-1)
- Provide environmental education, informational signing about resource use and special aspects of the area at scenic pull-offs. (IV-C-2)

- Focus on environmental education/protection (low impact use, etc.), outdoor ethics, and user etiquette at river access points. (IV-C-3)
- Provide information signing where appropriate about services, facilities, opportunities, etc., at major sites within this segment. (IV-C-4)

Subsection A: Buena Vista to Fisherman's Bridge:

- Develop boater education and environmental interpretation for the Buena Vista site. (III-C-4) (Medium Priority)

Subsection C: Ruby Mountain to Seidel's/Stone Bridge:

- Develop educational/interpretive signing program at Hecla. (III-C-26)
- Post educational signs (visible to river users) stipulating that use is restricted. (V-B-5)
- Initiate an interpretive Ranger program that discusses the unique characteristics of the Browns Canyon WSA. (VI-A-3)

B. Indirect Visitor Controls and Conflict Resolution

- Provide for quiet zones in residential areas along the river (e.g., Subsections A, B, E). (II-A-9)
- Redirect users not in proper areas and take action as needed. (IV-A-4)

Subsection C: Ruby Mountain to Seidel's/Stone Bridge:

- Segregate commercial and private boater ingress and egress points at Hecla. (III-A-18)
- Improve traffic flow at Hecla by signing and Ranger assistance on heavy use days (weekends and holidays during boating season). (III-C-23) (High Priority)
- Limit overnight commercial and private use to designated sites, and segregate these sites. (V-B-6)

C. Visitor Regulation and Enforcement

- Enforce existing statutes, with penalties, to protect private property owner rights and sensibilities throughout this segment. (II-A-1)
- Enforce appropriate regulations to halt animal harassment along the river; implement special regulations to address problems with recreationists using firearms. (II-A-8)

- Daily commercial launch windows will be as follows: 8:30 to 11:30 and 12:30 to 3:30. After 3:30 outfitters can launch up to 15 boats per hour, on the hour, taking no longer than 15 minutes to launch. (III-A-4).

- If the river use reverts to a level below carrying capacity, the allocation will be dropped. (III-A-8)

- Use will be restricted at developed sites based on the carrying capacities established. (III-B-5)

- Develop regulations protecting unique natural areas and wetlands identified in inventory. (V-A-3)

  Subsection C: Ruby Mountain to Seidel's/Stone Bridge:

  - Limit river "lunch stops" by groups with more than 6 boats in the party to designated sites. (V-B-1)

  - Patrol river corridor to enforce limits on off-site use. (V-B-4)

  Subsection E: Big Bend to Salida:

  Launch window for all boats is 8:30-11:30 a.m. and 12:30-:30 p.m. (re. DPOR).

D. Permits and Concessions

- Allow occasional special boating events to be scheduled on this segment. (III-C-35)

E. Emergency Services

III. FACILITY MANAGEMENT

A. Site Development

- Minimize development of facilities until the level of use warrants further development. (I-A-5)

- Create scouting opportunities for all users without violating railroad trespass. (III-B-3)

  Subsection A: Buena Vista to Fisherman's Bridge:

  Buena Vista

  - Complete boat chute. (III-C-1) (High Priority)

- Focus on Buena Vista as the primary site with complete set of facilities. The Buena Vista launch takeout area should be developed as a major parks facility. It can be used as a boater takeout for Segment 1 and a launch area for Segment 2. (High Priority). This facility should have bus parking and private parking, an improved launch pad, sanitation and changing rooms, day use, fishing access, picnicking and a traffic turn around area. (III-C-2) (Medium Priority)

- Enhance other recreation uses, including development of a nature trail to Cottonwood Creek-Marquard Nature Area. The trail should be designed to include wheelchair access as well as bike and foot traffic. Other hiking and biking trails should be considered. (III-C-3) (Low Priority)

Subsection B: Fisherman's Bridge to Ruby Mountain:

- Improve Fisherman's Bridge site by upgrading river access and further developing sanitation facilities, and changing facilities. (III-C-6) (Medium Priority)

Subsection C: Ruby Mountain to Seidel's/Stone Bridge

Ruby Mountain

- After acquiring additional property, develop this site as a major take-out for river trips from Buena Vista and put-in for river trips through to Salida, and as a river trip lunch stop area (for both privates and commercials) while recognizing the area's capacity for other types of recreation use. (III-C-9) (Medium Priority)

- Upgrade parking, sanitation, changing facilities, fishermen's access, camping, and day use facilities. (III-C-10) (High Priority)

- Provide safe drinking water source (anticipate well with a hand-pump). (III-C-11) (Medium Priority)

- Upgrade access road. (III-C-12) (High Priority)

- Erect appropriate signage to protect private property rights in area. (III-C-13)

- Public access to the Brown's Canyon Wilderness study area and to the public land rockhounding areas will be maintained across public lands. (III-C-14)

- Develop educational and environmental interpretive program for site. (III-C-15)

- Provide Class C Level - basic campground; include water with hand pump, restroom facilities, without a dumpstation and receptacles. (III-C-16)

  Browns Canyon

- Utilize and distribute BLM's brochures and information concerning the WSA (VI-A-1)

  Centerville

- Establish a camping site (Level D), with fees, on the west side of the river to provide day use for everyone and river overnight use accessible by river only with a reservation system. Also segregate commercial and private campsites. (III-C-17) (Medium Priority)

  Hecla Junction

- Improve sanitation and changing facilities. (III-C-19) (High Priority)

- Improve day use facilities to 30 tables with grills. (III-C-20) (Medium Priority)

- Provide drinking water. (III-C-21)

- Improve parking facilities for both private and commercial use. (III-C-22) (High Priority)

- Improve access road by widening and providing better signing. (III-C-24)

- Develop nature trail for hiking, including handicapped access. (III-C-25)

- Site Development Specifics, Subsection C (re. DPOR):

  - Ruby Mountain (on public lands/identified acquisition): In addition to actions identified above, develop a 40-site campground, each site having picnic tables. Toilets will also be constructed. Persons-at-one-time (PAOT) capacity is comprised of 137 at the launch ramp, 180 at the picnic area, and 33 fishermen.

  - Browns Canyon WSA Lunch Sites (on public lands): These consist of eight low-use sites with only temporary, non-impacting facilities, and each has only half the design capacity of the remaining ten lunch stop sites between the WSA and Hecla Junction. Only four of these sites are to be used at any one time--six on peak use weekends--on a rest-rotation basis.

- Railroad Bridge to Hecla Junction Lunch Sites (on public lands):
  The primary feature at each of these sites is site hardening adjacent to beaches to prevent resource deterioration. Toilets and other sanitation facilities will not be provided; portable toilets will be required of all boaters using these sites, commercial and private.

- Centerville (on public lands):
  Toilets and picnic tables will be provided at Centerville along with significant site hardening actions to prevent resource deterioration. Boaters not having portable toilets will have to use this site or Ruby Mountain for lunch/rest stops.

- Lower Seidel's (on public lands):
  Alternate takeout below Seidel's Rapid for boater access and sanitation facility development.

- Upper Stone Bridge (on public lands):
  Alternate takeout below Seidel's Rapid for boater access and sanitation facility development.

Subsection D: Seidels/Stone Bridge to Big Bend:

- Complete boat ramp and boater access into Salida. (III-C-31)

Subsection E: Big Bend to Salida:

- Develop Big Bend site as an alternate put-in/take-out for run to Salida and as relief to Hecla. Include restroom facilities and provide limited parking facilities. (III-C-33) (High Priority)

B. Maintenance

Subsection C: Ruby Canyon to Seidel's/Stone Bridge

- Maintain hiking trail access from Ruby Mountain to the Browns Canyon WSA. (VI-A-2)

C. Restoration

IV. ACCESS AND EASEMENT ACQUISITION

Subsection A: Buena Vista to Fisherman's Bridge:

- Acquire lands for additional public access in the Buena Vista area. (re DPOR) (Medium Priority)

Subsection B: Fisherman's Bridge to Ruby Mountain

- Seek to acquire an additional site at Fishermans Bridge for river access and day use (See the Ruby Mountain discussion). (III-C-7) (Medium Priority)

Subsection C: Ruby Mountain to Seidel's/Stone Bridge:

- Acquire additional lands for public recreation use in the Ruby Mountain vicinity. (III-C-8) (High Priority)

Subsection D:

- Acquire a public put-in/take-out below Seidels and above or at Big Bend. (III-A-7)

- Acquire one, and if feasible two, public site(s) for boating, fishing, and day use below Seidel's. (III-C-29) (High Priority)

Subsection E: Big Bend to Salida:

- Promote new DOW fishing easements (Big Bend to Salida). (III-C-34) (Medium Priority)

- Acquire Big Bend site as an alternate put-in/take-out run to Salida and as relief for Hecla (re DPOR) (High Priority)

V. ADMINISTRATION

A. Coordination with Others

- Review the 1989 investigations for consistency with plan prescriptions with the BLM to make recommendations about corrective measures. (I-A-2)

- Provide results of 1989 investigations to the organizations represented on the Advisory Committee. (I-A-3)

- Cooperate fully with the public and private landowners to ensure that regulations are adequately enforced. (II-A-3)

- DPOR and BLM will review the allocation system annually after implementation, using a river Advisory Committee. (III-A-6)

Subsection A: Buena Vista to Fisherman's Bridge:

- Johnsons Village: Work with county law enforcement officers to correct problems with users changing clothes, etc. in this area. (III-C-5)

Subsection E: Big Bend to Salida:

- Work with county to improve safety problems at Stone Bridge. (III-C-30) (Medium Priority)

- Work with city of Salida to provide parking, sanitation, day use, and change facilities. (III-C-32) (High Priority)

B. Studies and Monitoring

- Investigate during 1989 for consistency with all prescriptions. (I-A-1)
- Inventory all riverine/riparian areas that warrant special consideration or protection. (V-A-1)
- Identify other problem areas that warrant special resource protection. (V-A-2)
- User surveys will be conducted annually for the first two years, then bi-annually (every two years) to measure user perceptions of use conditions, especially crowding. (III-B-2)
- Inventory and develop day use areas. (III-C-36)

Subsection C: Ruby Mountain to Seidel's/Stone Bridge

- Inventory (Code-A-Site/Frissell classification schemes) all present sites along river. (V-B-2)

C. Staffing

D. Special Equipment and Procurement

Segment #3: Salida to Vallie Bridge

I. RESOURCE MANAGEMENT

A. Protection

- Identify specific points for stream improvement projects. (II-A-7)

B. Rehabilitation

- Work to restore conditions to warrant Gold Medal designation to the 7½ mile section from the Stockyards Bridge to Badger Creek. (II-A-5)

II. VISITOR MANAGEMENT

A. Visitor Information and Interpretation

- Develop visitor information brochures or signs explaining non-commercial opportunities. (III-A-3)
- Distribute such information at Ranger Stations and at brochure boxes located at Salida boat ramp, Cottonwood Rapid, and wildlife pullout areas. (III-A-4)

- Install educational/informational signs at wildlife pullout areas. (III-A-5)

- Post flash flood warning signs above Badger Creek and all other flash flood danger areas. (IV-A-3)

B. Indirect Visitor Controls and Conflict Resolution

- Redirect boating use as required. (II-A-3)

- Designate Rincon as a day-use area, accepting that additional use/need may warrant redesignation of area to include overnight camping. (III-A-7)

C. Visitor Regulations and Enforcement

- Do not allow camping in flood plain areas. (III-A-13)

- Allow occasional special boating events to be scheduled on this segment. (III-A-14)

D. Permits and Concessions

E. Emergency Services

III. FACILITY MANAGEMENT

A. Site Development

- Provide vehicle pullouts that are identified by the Division of Wildlife and other appropriate agencies, for viewing watchable wildlife. (III-A-1) (Medium Priority)

- Demphasize river accessible wildlife pullouts to provide further protection for the animals. (III-A-2)

- Improve/develop hiking and biking trails along this segment. (III-A-6).

- Provide sanitation facilities at Salida and Rincon. (III-A-8) (Medium Priority)

- Develop parking areas for 5 to 10 cars to accommodate fishermen at Rincon and new site. (III-A-9) (Medium Priority)

- Develop/improve parking facilities for 30 cars at Salida. (III-A-10)

- Develop a safer pull off area convenient to Cottonwood Rapid. (III-A-11) (Medium Priority)

- Develop Class D/Semi-Primitive Campground; special use permit camping for both private and commercial boaters at segregated sites along this segment. (III-A-12) (Low Priority)

- Improve highway access at Salida East, Rincon, and Badger Creek areas, if feasible, and others as appropriate. (IV-A-2) (Medium Priority)

- Site Development Specifics (re. DPOR):

  - Provide sanitation facilities at Salida. (Medium Priority)

  - Salida East (on public lands):
    Site development would include fisherman access, sanitation facilities, and parking for 10 cars.

  - Rincon (on public lands):
    Site development would include parking for 5-10 cars plus a minimum of 10 parking spaces for picnic sites to accommodate day use fishing and picnicking. Sanitation facilities also to be provided.

    Class D Semi Primitive Campground:
    Site not yet identified.

B. Maintenance

C. Restoration

IV. ACCESS AND EASEMENT ACQUISITION

- Promote new DOW fishing easement north of Vallie Bridge. (II-A-6)

- Develop better fishermen access. (II-A-9) (High Priority)

V. ADMINISTRATION

A. Coordination with Others

- Review the 1989 investigations for consistency with plan prescriptions with the BLM to make recommendations about corrective measures. (I-A-2)

- Provide results of consistency review to the organizations represented on the Advisory Committee. (I-A-3)

- Develop a cooperative agreement with the Colorado Department of Highway and appropriate counties to begin correcting safety problems. (IV-A-1)

- Elicit recommendations from Highway Department on solutions to safety problems within this segment. (IV-A-4)

B. Studies and Monitoring

- Investigate during 1989 for consistency with all prescriptions. (I-A-1)
- Conduct random user counts. (II-A-4)
- Identify areas where erosion problems can be eliminated. (II-A-10)

C. Staffing

- Seek volunteer help in completing stream improvement projects. (II-A-8)

D. Special Equipment and Procurement

Segment #4: Vallie Bridge to Parkdale

I. RESOURCE MANAGEMENT

A. Protection

- Identify specific points for stream improvement projects that benefit fishing. (II-B-2)

B. Rehabilitation

II. VISITOR MANAGEMENT

A. Visitor Information and Interpretation

- Erect signs at all developed sites and at all pull-offs and lookout spots, warning highway traffic of traffic entering and leaving highway, and of pedestrian traffic. (III-A-2)
- Educate boaters to use one channel, by signage and brochures, to allow fishermen use along one bank, where feasible. (II-B-1)
- Develop visitor information brochures and signs explaining non-commercial recreation opportunities. (II-C-2)
- Distribute such information at Ranger Station, wildlife pullout areas, and fishermen access areas. (II-C-3)
- Install educational/informational signs at wildlife pullout areas. (II-C-4)
- Provide educational and environmental interpretative displays at all sites that aim at improving user ethics and enhancing user understanding of the uniqueness of this area. (II-E-4) (Medium Priority)

Subsection C: Pinnacle Rock to Parkdale

- Provide warning signs for boaters about dangerous rapids, and river dangers below Parkdale. (II-D-2)

B. Indirect Visitor Controls and Conflict Resolution

Subsection C: Pinnacle Rock to Parkdale

- Convert Parkdale to private boater use only after buying or leasing a property downstream from BLM's Parkdale site for public access segregated by user group. (See also Item 4) (II-D-5)

C. Visitor Regulations and Enforcement

- Allow occasional special boating events to be scheduled on this segment. (II-D-4)

- Restrict recreation pedestrian traffic all along the highway, except where absolutely no alternative exists. (III-A-1)

- Allow occasional special boating events to be scheduled on this entire segment. (II-A-13)

Subsection A: Vallie Bridge to Lone Pine

- No launches before 9:00 a.m. or after 3:00 p.m., May 15 to August 15. (II-A-2)

- Restrict boat launches to 30 boats per day, 9:00 a.m. to 3:00 p.m., August 15 to May 15 on a first-come, first-served basis. (II-A-4)

Subsection B: Lone Pine to Pinnacle Rock

- No launches before 8:30 a.m. or after 4:00 p.m., May 15 to August 15. (II-A-6)

- Restrict boat launches to 30 private boats per day, 8:30 a.m. to 4:00 p.m., August 15 to May 15 on a first-come, first-served basis. (II-A-8)

Subsection C: Pinnacle Rock to Parkdale

- No launches before 8:30 a.m. or after 5:00 p.m., May 15 to Labor Day. (II-A-10)

- Restrict boat launches to 50 commercial and 50 private boats, 9:00 a.m. to 4:00 p.m., Labor Day to May 15. (II-A-12)

D. Permits and Concessions

E. Emergency Services

III. FACILITY MANAGEMENT

A. Site Development

- Develop parking areas for 5 to 10 cars to accommodate fishermen at areas identified by the Division of Wildlife. (II-B-5)
- Improve/develop hiking and biking trails along this segment. (II-C-7)
- Develop/improve parking facilities for non-boater recreation. (II-C-8)
- In Segment 4 improve fishermen access at areas designated by the Division of Wildlife. (re DPOR) (Medium Priority)

  Subsection A: Vallie Bridge to Lone Pine

  - Improve fisherman access at Coaldale, Cottonwood, and Cotopaxi. (II-B-4) (see also Subsections B & C)
  - Provide sanitation facilities at Cotopaxi and other sites as needed. (II-C-6) (See also Subsections B & C) (Medium Priority)
  - Provide or improve private launch facilities at Cotopaxi. (II-D-1) (See also Subsections B & C) (Low Priority)
  - Provide or improve commercial launch and vehicular access facilities at Cotopaxi. (II-E-1) (See also Subsections B & C)
  - Provide lunch stop areas for commercial use at those sites. (II-E-3) (See also Subsections B & C)
- Site Development Specifics (re. DPOR):
  - Cotopaxi (unknown site):
    May seek a site above Cotopaxi and a site below. Both would be 5-10 car parking, small 5-8 picnic tables, fishing access, and boater access. Sanitation facilities also to be provided.
  - Improve picnic facilities at Cotopaxi. (Low Priority)

  Subsection B: Lone Pine to Pinnacle Rock

  - Improve fisherman access at Fernleaf Gulch and Texas Creek. (II-B-4) (see also Subsections A & C)
  - Provide sanitation facilities at Lone Pine and other sites as needed. (II-C-6) (See also Subsections A & C) (Medium Priority)

- Provide or improve private launch facilities at Lone Pine, Maytag, and especially at Texas Creek. (II-D-1) (See also Subsections A & C) (Low Priority)

- Develop portage and/or scouting routes near dangerous rapids such as Maytag and Devil's Hole, while enforcing trespass restrictions along the railroad track. (II-D-3) (See also Subsection C) (Low Priority)

- Provide or improve commercial launch and vehicular access facilities at Lone Pine and Texas Creek/Maytag. (II-E-1) (See also Subsections A & C)

- Provide lunch stop areas for commercial use at those sites. (II-E-3) (See also Subsections A & C)

- Provide a Class D river camping area in the Texas Creek Area. (II-E-5)

- Provide Class C camping at Maytag, without dump stations and receptacles. (II-E-6)

- Provide for Class D camping and lunch site (boating use only) below Devils Hole Rapid on north side of river. (II-E-7) (Low Priority)

- Site Development Specifics (re. DPOR):

  - Lone Pine (on public lands):
    Site development to consist of 15-25 picnic tables, some to be used for boater lunches, sanitation facilities, and fishing access.

  - Texas Creek (on public lands):
    Fishing and boating access with eventual development of a Class D Semi Primitive camp area accessible by river only.

  - Maytag (on public lands):
    Development consisting of picnic tables, sanitation facilities, and fishing access plus a trail for scouting the rapid.

  - Devil's Hole (on public lands):
    Class D Semi Primitive camping recommended for development as a boater lunch stop.

Subsection C: Pinnacle Rock to Parkdale

- Improve fisherman access at Pinnacle Rock, Five Points, and Parkdale. (II-B-4) (see also Subsections A & B)

- Provide vehicle pullouts at Spike Buck and the Pinnacle Rock area for viewing watchable wildlife. (II-C-1)

- Provide sanitation facilities at Pinnacle Rock, Five Points, Parkdale, [Lower Flood Plain (re DPOR)] and other sites as needed. (II-C-6) (See also Subsections A & B) (Medium Priority)

- Provide or improve private launch facilities at Five Points and Parkdale. (II-D-1) (See also Subsections A & B) (Low Priority)

- Develop portage and/or scouting routes near dangerous rapids such as 3 Rocks and Five Points, while enforcing trespass restrictions along the railroad track. (II-D-3) (See also Subsection B) (Low Priority)

- Provide or improve commercial launch and vehicular access facilities at Salt Lick and Parkdale. (II-E-1) (See also Subsections A & B)

- Provide lunch stop areas for commercial use at those sites. (II-E-3) (See also Subsections A & B)

- Increase boat access at Pinnacle Rock with more and better docking sites. (Medium Priority) Provide more toilets at Pinnacle Rock. (II-E-8)

- Provide more toilets at Salt Lick. (II-E-9)

- Develop parking for 20 vehicles for boat launches and a lunch site at Five Points south. (II-E-10) (Medium Priority)
- Improve the portage at Three Rocks. (II-E-11)

- Improve scouting of Three Rocks on south side of river. (III-A-4) (Low Priority)

- Site Development Specifics (re. DPOR):

  - Pinnacle Rock (on public lands):
    Parking spaces for 25 cars, picnicking and sanitation facilities, and fishing access.

  - Three Rocks (on public lands):
    Develop trail for scouting and portaging the rapid.

  - Improve picnic facilities at Pinacle Rock, Five Points, and the Lower Flood Plain sites (Low Priority)

B. Maintenance

C. Restoration

- Improve picnic facilities at Cotopaxi, Lone Pine, Pinnacle Rock, Five Points, and other sites as identified. (II-C-5)

- Improve sanitation (toilets and trash) facilities at Cotopaxi, Lone Pine, Texas Creek/Maytag, Salt Lick and Parkdale. (II-E-2)

IV. ACCESS AND EASEMENT ACQUISITION

- Buy or lease a property downstream from BLM's Parkdale site for public access segregated by user group and then convert Parkdale to private boater use only. (II-D-5) (See also Item 2b)

V. ADMINISTRATION

A. Coordination with Others

- Review the investigation with the BLM to make recommendations about corrective measures. (I-A-2)
- Provide results to the organizations represented on the Advisory Committee. (I-A-3)
- Work with landowners and counties to alleviate safety problems at pedestrian bridges. (II-C-9) (Low Priority)
- Work with Highway Department to develop pull-off, turn-in lanes, and passing lanes, near all developed sites and at all pull-offs and lookout spots, it at all feasible. (III-A-3) (Medium Priority)

B. Studies and Monitoring

- Investigate during 1989 for consistency with all prescriptions. (I-A-1)

C. Staffing

- Seek volunteer help in completing stream improvement projects. (II-B-3)

Segment #5: Parkdale to Canon City

I. RESOURCE MANAGEMENT

A. Protection

B. Rehabilitation

II. VISITOR MANAGEMENT

A. Visitor Information and Interpretation

- Provide warnings signs for boaters about the expert nature of the river below Parkdale, warn boater of manmade hazards and the total absence of any take-out before or in the Gorge. (NOTE: This will be done so that State Parks does not accept liability in this or other areas). (II-1)

B. Indirect Visitor Controls and Conflict Resolution

C. Visitor Regulation and Enforcement

- Allow private launches at any time of the day, consistent with allocation systems that may be developed. (III-A-2)

- No commercial launches past Parkdale Bridge pst 1:30 p.m. (See objectives also) (III-A-1)

- Limit commercial launches to 6 boats per launch. (III-A-4)

D. Permits and Concessions;

E. Emergency Services

III. FACILITY MANAGEMENT

A. Site Development

- Work to develop portage/scouting routes near dangerous rapids such as Sunshine Falls, Sledge Hammer, etc. (II-3)

- Site Development Specifics (re. DPOR):

  - Parkdale (at unknown location):
    Major site development to accommodate substantial boating use would consist of parking for 20 vehicles, 15-20 picnic tables, sanitation facilities, and fishing access. Fishing access would also be acquired at other spots along this segment wherever feasible.

  - Parkdale South (on public lands):
    Considered potential for parking facilities and trail access to the river for boaters and fishermen.

  - Develop a safer pulloff area convenient to Parkdale. (High Priority)

B. Maintenance

C. Restoration

- Work to remove manmade dangers along the Royal Gorge run. (II-2) (Medium Priority)

IV. ACCESS AND EASEMENT ACQUISITION

- Acquire lands in the Canon City area for additional boater egress from the Royal Gorge run. (re DPOR) (High Priority)

V. ADMINISTRATION

A. Coordination with Others

- Review the investigation with the BLM to make recommendations about corrective measures. (I-2)
- Provide results to the organizations represented on the Advisory Committee. (I-3)
- Work with city to improve/develop boat chute. (IV-A-1) (High Priority)
- Work with city to improve/develop boat ramp and take-out facilities. (IV-A-2) (High Priority)

B. Studies and Monitoring

- Investigate during 1989 for consistency with all prescriptions. (I-1)

C. Staffing

D. Special Equipment and Procurement

Segment #6: Canon City to Pueblo Reservoir

I. RESOURCE MANAGEMENT

A. Protection

- Identify specific points for stream improvement projects. (II-A-1) (Low Priority)

B. Rehabilitation

II. VISITOR MANAGEMENT

A. Visitor Information and Interpretation

- Include information in park brochures concerning private lands to educate recreation users. (II-B-1)
- Develop visitor information brochures and signs explaining recreation opportunities in the area and distribute them as appropriate. (II-C-2)
- Develop educational/interpretative signs at all significant sites, highlighting watchable wildlife and bird life, and environmental educations. (II-C-3)

- Provide warning signs (NOTE: This will be done so that State Parks does not accept liability in this or other areas) for boaters about river dangers, e.g., submerged logs, etc. (II-D-5)

- Encourage fishing float trips. (II-D-9)

B. Indirect Visitor Controls and Conflict Resolution

C. Visitor Regulation and Enforcement

- Limit lunch stop areas to the Florence and Hobson sites, unless other arrangements are made. (II-D-6)

- Allow private launches at any time of the day, consistent with allocation systems that may be developed. (II-D-7)

- Limit commercial launches to between the hours of 9:00 a.m. and 3:00 p.m. each day. (II-D-8)

  No limits will be placed on float fishing trips. (II-D-10)

D. Permits and Concessions

E. Emergency Services

III. **FACILITY MANAGEMENT**

A. Site Development

- Improve fishermen access at Florence, Hobson, and other areas designated by the Division of Wildlife. (II-A-3)

- Develop parking areas for 5 to 10 cars to accommodate fishermen at Florence, Hobson, and other areas designated by the Division of Wildlife. (II-A-4)

- Provide a "limited maintenance" site at or near Florence and in the area near Hobson. (II-C-1)

- Provide picnic facilities at the Florence site. (II-C-4)

- Provide sanitation facilities at Florence and Hobson. (II-D-2)

- Improve/develop hiking and biking trails along this segment. (II-D-3)

- Develop nature trails at the Hobson site. (II-D-4)

- Site Development Specifics (re. DPOR):

  - Florence (on municipal land):
    Development to consist of 5-10 car parking, sanitation facility development, and river access site for lunch stops and boating. (Medium Priority)

87

- Hobson (on municipal land):
  Development to consist of 5-10 car parking, sanitation, and river access for fishermen and boaters. (Medium Priority)

- Pueblo Reservoir (to be acquired):
  Development of boating egress as last available take out before entering Pueblo Reservoir. Boat ramp and sanitation facilities. (Medium Priority)

B. Maintenance

C. Restoration

IV. ACCESS AND EASEMENT ACQUISITION

- Work to provide fishing access points. (II-B-2)
- Acquire and develop a take-out site above Pueblo Reservoir Wildlife Area with areas for commercial and private boaters. (II-D-1) (Medium Priority)
- Develop boater access at Florence. (re DPOR) (Medium Priority)

V. ADMINISTRATION

A. Coordination with Others

- Review the investigation with the BLM to make recommendations about corrective measures. (I-A-2)
- Provide results to the organizations represented on the Advisory Committee. (I-A-3)
- Explore the possibility of allowing use through CFI Dam. (II-D-11)
- Work with the City of Florence on development of proposed recreation projects. (II-D-13)

B. Studies and Monitoring

- Investigate during 1989 for consistency with all prescriptions. (I-A-1)

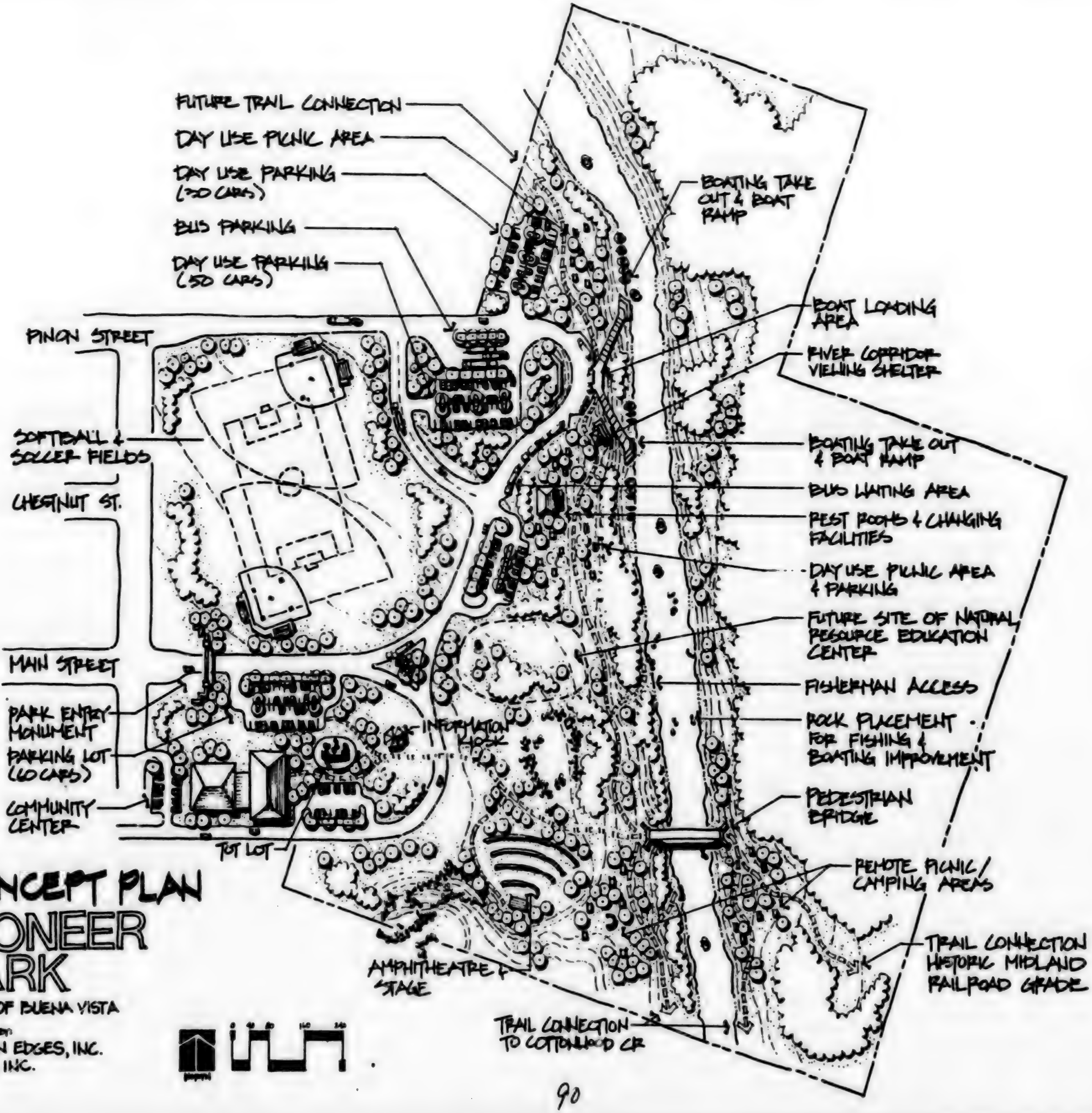
C. Staffing

- Seek volunteer help in completing stream improvement projects. (II-A-2)

D. Special Equipment and Procurement - None.

6. RECREATION DEVELOPMENT CONCEPTS

The following illustrations are examples of preliminary conceptual drawings of potential recreation site development along the Upper Arkansas River. It should be emphasized that these drawings are for informational purposes only and cannot be finalized until site capacities are identified. Their purpose here is to simply give the reader some ideas as to a consultants early thinking on a few of the potential recreation sites along the corridor.

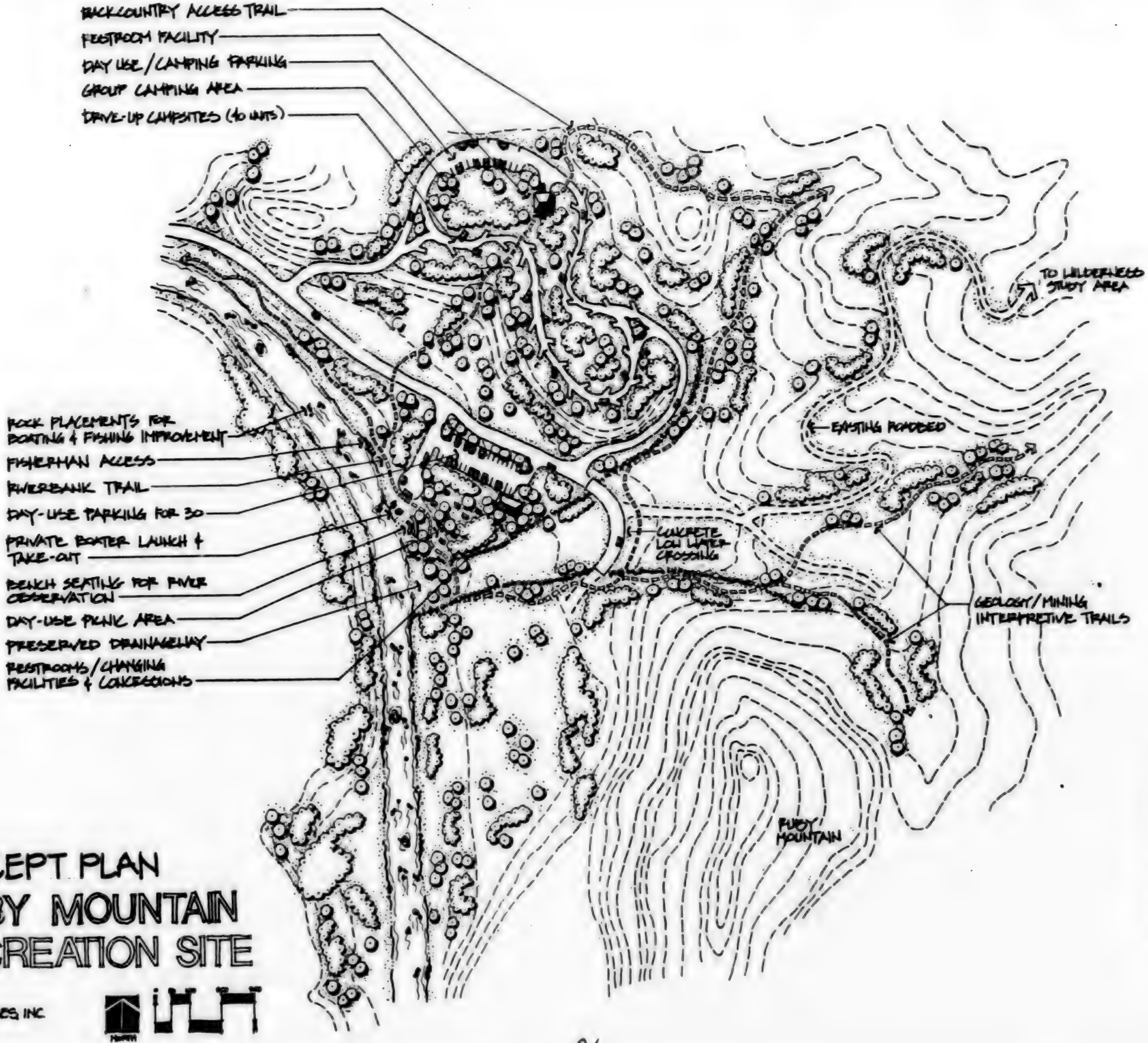

FUTURE TRAIL CONNECTION
DAY USE PICNIC AREA
DAY USE PARKING (30 CARS)
BUS PARKING
DAY USE PARKING (50 CARS)
PINON STREET
SOFTBALL & SOCCER FIELDS
CHESTNUT ST.
MAIN STREET
PARK ENTRY MONUMENT
PARKING LOT (60 CARS)
COMMUNITY CENTER
TOT LOT
INFORMATION KIOSK
AMPHITHEATRE & STAGE
TRAIL CONNECTION TO COTTONWOOD CR.
BOATING TAKE OUT & BOAT RAMP
BOAT LOADING AREA
RIVER CORRIDOR VIEWING SHELTER
BOATING TAKE OUT & BOAT RAMP
BUS WAITING AREA
REST ROOMS & CHANGING FACILITIES
DAY USE PICNIC AREA & PARKING
FUTURE SITE OF NATURAL RESOURCE EDUCATION CENTER
FISHERMAN ACCESS
ROCK PLACEMENT FOR FISHING & BOATING IMPROVEMENT
PEDESTRIAN BRIDGE
REMOTE PICNIC/ CAMPING AREAS
TRAIL CONNECTION TO HISTORIC MIDLAND RAILROAD GRADE

CONCEPT PLAN

PIONEER PARK

CITY OF BUENA VISTA

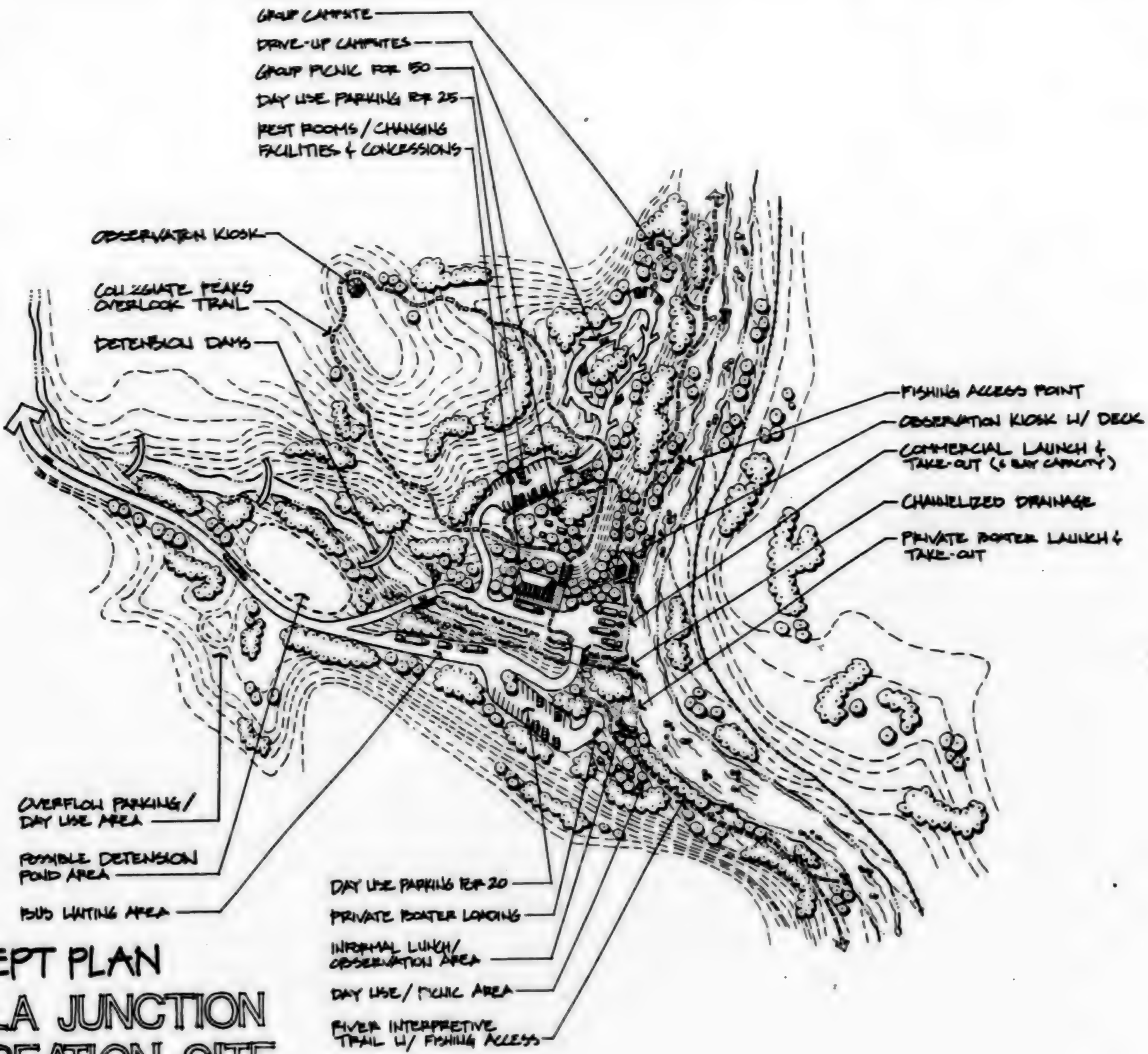
PREPARED BY:
URBAN EDGES, INC.
DHM, INC.


BACKCOUNTRY ACCESS TRAIL
RESTROOM FACILITY
DAY USE/CAMPING PARKING
GROUP CAMPING AREA
DRIVE-UP CAMPSITES (40 UNITS)
ROCK PLACEMENTS FOR BOATING & FISHING IMPROVEMENT
FISHERMAN ACCESS
RIVERBANK TRAIL
DAY-USE PARKING FOR 30
PRIVATE BOATER LAUNCH & TAKE-OUT
BENCH SEATING FOR RIVER OBSERVATION
DAY-USE PICNIC AREA
PRESERVED DRAINAGEWAY
RESTROOMS/CHANGING FACILITIES & CONCESSIONS
TO WILDERNESS STUDY AREA
EXISTING ROADBED
CONCRETE LOW WATER CROSSING
GEOLOGY/MINING INTERPRETIVE TRAILS
RUBY MOUNTAIN
NORTH

CONCEPT PLAN
RUBY MOUNTAIN RECREATION SITE

PREPARED BY:
URBAN EDGES INC
DHM, INC

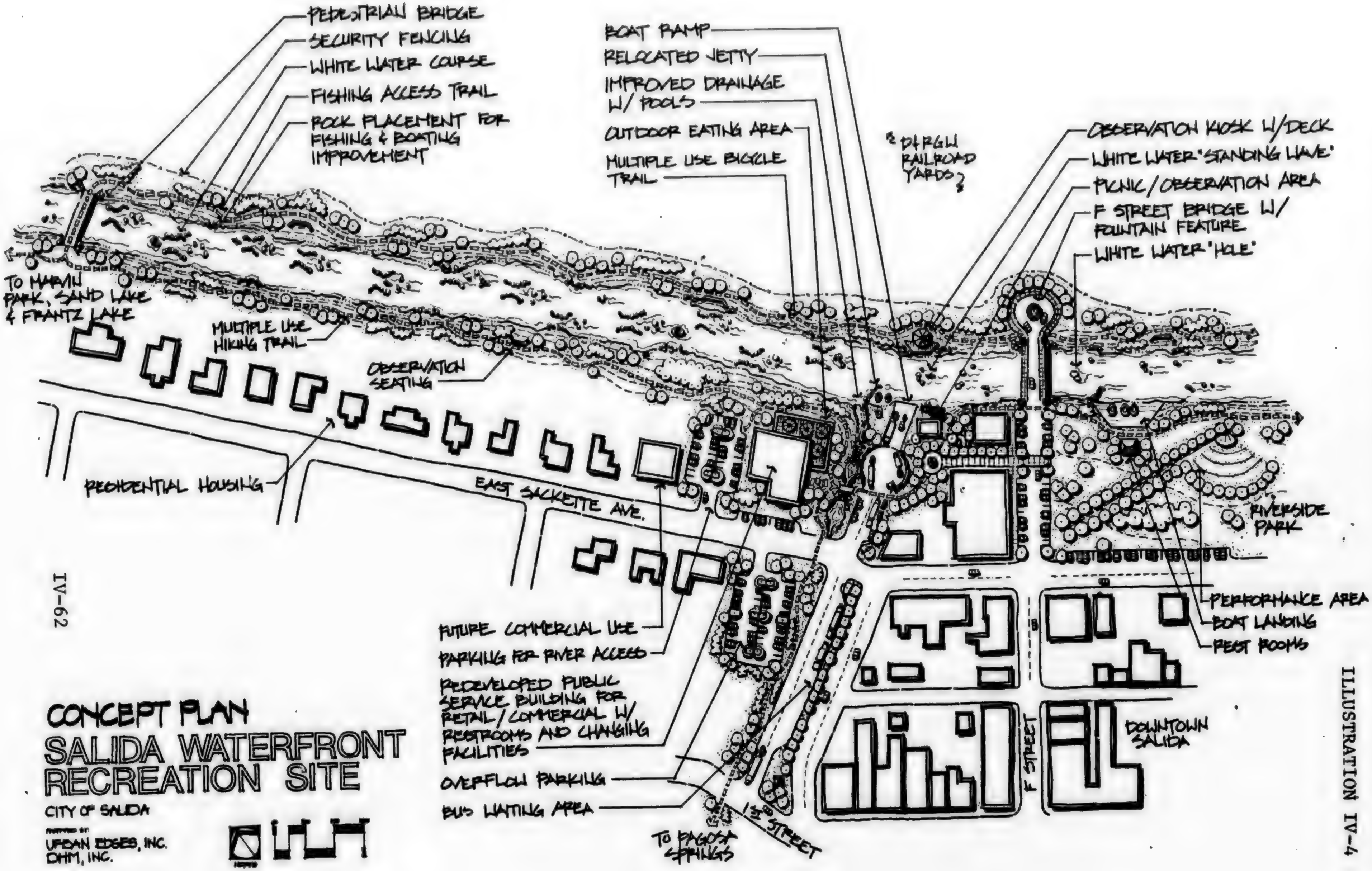
ILLUSTRATION IV-2


GROUP CAMPSITE
DRIVE-UP CAMPSITES
GROUP PICNIC FOR 50
DAY USE PARKING FOR 25
REST ROOMS / CHANGING FACILITIES & CONCESSIONS
OBSERVATION KIOSK
COLLEGIATE PEAKS OVERLOOK TRAIL
DETENSION DAMS
FISHING ACCESS POINT
OBSERVATION KIOSK W/ DECK
COMMERCIAL LAUNCH & TAKE-OUT (6 BUS CAPACITY)
CHANNELIZED DRAINAGE
PRIVATE BOATER LAUNCH & TAKE-OUT
OVERFLOW PARKING / DAY USE AREA
POSSIBLE DETENSION POND AREA
BUS WAITING AREA
DAY USE PARKING FOR 20
PRIVATE BOATER LOADING
INFORMAL LUNCH / OBSERVATION AREA
DAY USE / PICNIC AREA
RIVER INTERPRETIVE TRAIL W/ FISHING ACCESS

CONCEPT PLAN
HECLA JUNCTION RECREATION SITE

PREPARED BY:
URBAN EDGES, INC.
DHM, INC.

ILLUSTRATION IV-3



CONCEPT PLAN
SALIDA WATERFRONT RECREATION SITE
CITY OF SALIDA
PREPARED BY:
URBAN EDGES, INC.
DHM, INC.

ILLUSTRATION IV-4

7. IMPLEMENTATION PHASING

The Colorado Division of Parks and Outdoor Recreation (DPOR) intends to design facilities to directly accommodate the carrying capacities outlined in the management and development proposal assembled by the Arkansas River State Recreation Advisory Committee. There will be no phasing; design capacity equals carrying capacity.

However, DPOR and the Advisory Committee have combined suggestions for prioritizing the major acquisition and development sites that are discussed within the Arkansas River Recreation Management Plan. These items have been prioritized into High, Medium, and Low categories as listed below. The Committee realizes that actual accomplishments may vary somewhat from these priorities. For example, negotiations for a specific acquisition property may result in acquiring a medium or low priority site before one of a higher priority.

1. Segment 1: Leadville to Buena Vista

HIGH

- Develop toilet facilities near the Railroad Bridge. (III-E-2)

MEDIUM

- Develop sanitation facilities at Frog Rock. (III-E-1)
- Develop day use parking at Railroad Bridge and Frog Rock for 30 plus cars. (III-E-5)
- Develop/improve access points at Pine Creek rapid, Railroad Bridge, and Frog Rock. (III-E-4)
- Acquire additional lands for greater public access in segment one especially in the Pine Creek area and for fishing use in the uupper stretches of the segment (especially as it is made suitable for a viable fishery). (re. DPOR)

LOW

- Establish walk-in camping at one site in Subsection B with a common parking area, remote tent sites, sanitation and water (hand pump) consistent with Class D type camping facilities. (III-E-6)

2. Segment 2: Buena Vista to Salida

HIGH

- Implement draingage control plan at Hecla Junction. (III-C-27)
- Improve traffic flow by signing and Ranger assistance on heavy use days at Hecla Junction (weekends and holidays during boating season). (III-C-23)

- At Hecla Junction: segregate commercial and private boaater ingress and egress points. (IV-B-3)

- Complete Buena Vista boat chute. (III-C-1)

- Focus on Buena Vista as a primary site with complete set of facilities. The Buena Vista launch take-out area should be developed as a major parks facility. It can be used as a boater take-out for Segment #1 and a launch for Segment #2.

- Upgrade Ruby Mountain parking, sanitation facilities, fishermen's access, camping and day use facilities. (III-C-10)

- Upgrade Ruby Mountain access road. (III-C-12)

- Improve sanitation and changing facilities at Hecla Junction. (III-C-19)

- Improve parking facilities at Hecla Junction for both private and commercial use. (III-C-22)

- Acquire/Develop Big Bend site as an alternate put-in/take-out for run to Salida and as relief for Hecla. Include restroom facilities and provide limited parking facilities. (III-C-33/DPOR)

- Acquire additional lands for public reacreation use in the Ruby Mountain vicinity. (III-C-8)

- Acquire one, and if feasible two, public site(s) for boating, fishing and day use below Seidel's. (III-C-29)

- Work with the City of Salida to provide parking, sanitation, day use, and changing room facilities. (III-C-32)

MEDIUM

- Develop boater education and environmental interpretation at Buena Vista site. (III-C-4)

- Buena Vista facility should have bus parking, an improved launch pad, sanitation and changing rooms, day use, fishing access, picnicking and a traffic trun around area. (III-C-2)

- Develop sanitation facilities and changing rooms at Fisherman's Bridge. (III-C-6)

- After acquiring additional property in the Ruby Mountain vicinity, develop this site as a major take-out for river trips from Buena Vista and put-in for river trips to Salida, and as a river trip lunch stop area (for both privates and commercials) while recognizing this area's capacity for other types of recreation use. (III-C-9)

- Provide a safe drinking water source (well with hand pump) at Ruby Mountain. (III-C-11)

- Centerville: establish a Class D level campground, with fees, on the west side of the river to provide day use for everyone and river overnight use accessible by river only with a reservation system. Segregate commercial and private sites. (III-C-17)

- Improve day use facilities to 30 tables with grills at Hecla Junction. (III-C-20)

- Seek to acquire an additional site for river access and day use in the Fisherman's Bridge area. (III-C-7)

- Promote new fishing easements at Big Bend. (III-C-34)

- Acquire lands for additional public access in the Buena Vista area. (re. DPOR)

- Work with county to improve safety problems at Stone Bridge. (III-C-30)

LOW

- Enhance other recreation uses, including development of a nature trail to Cottonwood Creek-Marquard Nature Area. The trail should be designed to include wheelchair access as well as bike and foot traffic. (III-C-3)

- Establish hiking and biking trails along the corridor on lands under the control of DPOR. (III-E-7)

3. Segment 3: Salida to Vallie Bridge

HIGH

- Acquire additional public lands in Segment 3 for greater public access especially geared toward fishermen. (re. DPOR/II-A-9)

MEDIUM

- Provide vehicle pullouts that are identified by the Division of Wildlife and other appropriate agencies, for viewing watchable wildlife, especially in Segment 3. (III-A-1)

- Provide sanitation facilities at Rincon. (III-A-8)

- Develop parking areas for 5 to 10 cars to accommodate fishermen at Rincon and new site. (III-A-9)

- Develop a safer pull-off area convenient to Cottonwood Rapid. (III-A-11)

- Improve highway access at Salida East, Rincon, and Badger Creek areas, if feasible, and others as appropriate. (IV-A-2)

- Provide sanitation facilities at Salida (re. DPOR)

LOW

- In Segment 3 develop Class D level semiprimitive campground; special use permit camping for both private and commercial boaters at segregated sites along this segment. (III-A-12)

4. Segment #4: Vallie Bridge to Parkdale

HIGH

- Buy or lease property downstream from BLM's Parkdale site for public access segregated by user group and then convert Parkdale to private boater use only. (II-D-5)

MEDIUM

- Provide educational and environmental interpretive displays at all sites that aim at improving user ethics and enhancing user understanding of the uniqueness of this area. (II-E-4)

- Provide sanitation facilities at Cotopaxi, Lone Pine, Pinnacle Rock, Five Points, and the Lower Floodplain site, and Parkdale. (II-C-6)

- Increase boat access at Pinnacle Rock with more and better docking sites. (II-E-8)

- Develop parking for 20 vehicles for boat launches and a lunch site at Five Points South. (II-E-10)

- In Segment 4 improve fishermen access at areas designated by the Division of Widlife. (re. DPOR)

- Work with the Highway Department to develop pull-off/turn-in lanes, and passing lanes, near all developed sites and at all pull-offs and lookout spots, if feasible. (III-A-3)

- Acquire aditional lands along Segment 4 to accommodate the greatest increase in river recreation as well as to provide a wide variety of recreation opportunities. (Goal II)

LOW

- Improve the portage at Three Rocks. Improve scouting for Three Rocks on south side of river. (III-A-4)

- Work with landowners and counties to alleviate safety problems at pedestrian bridges. (II-C-9)

- Provide or improve private launch facilities at Cotopaxi, Lone Pine, Maytag, Spike Buck, and especially at Texas Creek, Five Points and Parkdale. (II-D-2)

- Develop portage, scouting routes near dangerous rapids such as Maytag, Devil's Hole, Three Rocks, and Five Points while enforcing trespass restrictions along the Railroad track. (II-D-3)

- Provide for Class D level river camping and lunch site below Devil's Hole Rapid on north side of river. (II-E-7)

- Improve picnic facilities at Cotopaxi, Pinnacle Rock, Five Pionts, and the Lower Flood Plain sites. (re. DPOR)

5. Segment #5: Parkdale to Canon City

HIGH

- Develop a safer pulloff area convenient to Parkdale. (re. DPOR)

- Acquire lands in the Canon City area for additional boater egress from the Royal Gorge run. (re. DPOR)

- Work with Canon City to improve/develop boat chute. (IV-A-1)

- Work with Canon City to improve/develop boat ramp and take-out facilities. (IV-A-2)

MEDIUM

- Work to remove manmade dangers along the Royal Gorge Run. (II-2)

- Develop portage/scouting routes near dangerous rapids such as Sunshine Falls, Sledge Hammer, etc. (II-3)

LOW

- (None)

6. Segment #6: Canon City to Pueblo Reservoir

HIGH

- (None)

MEDIUM

- Develop at take-out site above Pueblo Reservoir with areas for commercial and private boaters. (II-D-2)
- Provide sanitation facilities at Florence, Hobson, and Pueblo. (re. DPOR)
- Develop boater access at Florence. (re. DPOR)

LOW

- Identify specific points for stream improvement projects especially within Segment 6. (II-A-1)

7. Area-Wide

MEDIUM

- Acquire additional lands for greater public access within the municipalities. (re. DPOR)
- Improve fisherman access at areas designated by the Division of Wildlife. (re. DPOR)

CHAPTER V
ALTERNATIVES

Alternatives are developed to portray a mix of management actions to resolve planning issues and address management concerns. Each alternative and its associated objectives and management prescriptions inform decision makers and the public of available recreation resource, visitor, facility, and administrative options. When analyzed along with the management proposal or proposed action, these provide a basis for comparing and making a reasoned plan decision.

Alternatives portray reasonable approaches to the issues needing to be addressed in this plan that differ from the proposed action. They reflect the diversity of issues as well as all applicable policy guidance. However, the number of alternatives is limited, and reasonable variations to the alternatives selected are simply treated within the three primary options outlined below.

Each alternative selected is sufficiently distinct from the others in terms of its relationship to issues needing to be addressed and resolved. These distinctions are essential to provide managers with a clear choice among available recreation management scenarios, consistent with the planning principles and requirements of the Federal Land Policy and Management Act of 1976. Illustration V-1 graphically depicts the Management and Development Proposal (Proposed Action) and each of the alternatives, showing basic similarities and differences. Based on the work of the Advisory Committee, the Colorado Division of Parks and Outdoor Recreation made boating projections for each of these scenarios to be used in the environmental analysis (Illustrations V-2 through V-5).

To the extent they differ from the proposed action, new recreation management objectives and implementing actions are presented for each alternative to clarify differences in management intent (management prescriptions). This facilitates comparison among alternatives as well as between alternatives and the proposed action.

Two key features of each alternative are their recreation character class and carrying capacity prescriptions. Recreation character prescriptions depict management objectives for the physical, social, and managerial attributes of each river segment. Illustration V-6 depicts these separately for the river corridor and for intensively developed recreation sites, by each management option and by river segment.

Carrying capacity prescriptions lend objectivity to objectives by assigning measureable upper limits of visitor use considered acceptable to still achieve prescribed social character class objectives. These are depicted on Illustration V-7 for the Proposal and Alternative A. None were set for Alternatives B and C since the absence of on-river authority under those alternatives would make river corridor carrying capacities unmanageable (see descriptions below).

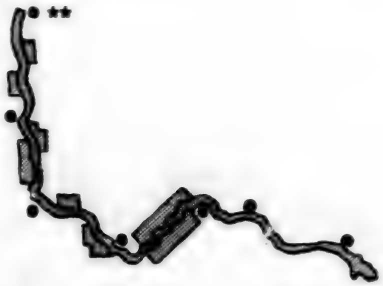
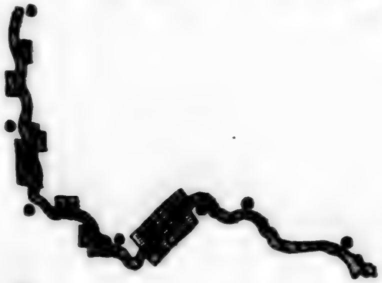
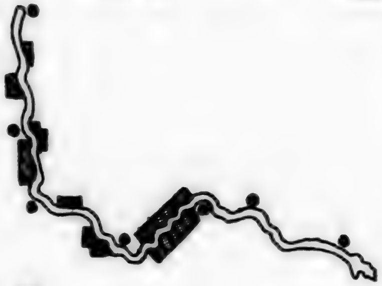
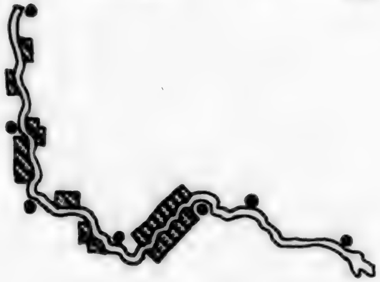
Each alternative addresses the entire area covered by the proposal.

Alternative A: REDUCED DEVELOPMENT

This alternative assumes the same authorities as the Proposed Action. It anticipates that the Bureau of Land Management (BLM) and the Colorado Division of Parks and Outdoor Recreation (DPOR) would still be entering

ILLUSTRATION V-1

PROPOSED ACTION & ALTERNATIVES

Name →	**Definition** →	**Authorities** →	**Illustrated** →
Proposed Action: **Management & Development Proposal**	• *Formulated by Arkansas River Recreation Advisory Committee* • *Transmitted to BLM by Parks Board*	H.B. 1253 * + CMA	** 
Alternative A: **Reduced Development** = a reflection of Advisory Committee Minority Reports	• *Lower carrying capacities & Greater trade-offs* • *Different balance between boating & Other uses*	H.B. 1253 + CMA	
Alternative B: **Land-Based** = what would happen without H.B. 1253	• *Management with the benefit of a BLM-DPOR CMA & State funding, but only on public lands (no on-river management)* • *Without on-water management, cannot accommodate as much recreation use without conflicts*	CMA *(minus H.B. 1253)*	
Alternative C: **No Action** = what would happen without H.B. 1253 AND without a CMA	• *State funding no longer available for use in public land recreation management* • *Absent on-water authority, user conflicts, congestion, and safety hazards would increase*	*(Neither CMA nor H.B. 1253)*	

* H.B. 1253 = The Arkansas River Recreational Act
CMA = Cooperative Management Agreement

** ▩ = recreation under DPOR management.
▦ = recreation under BLM management.
▨ = reduced level of recreation management.
☐ = under no recreation management authority.
• Dots schematically depict the six river segments, ribbon depicts the river, & boxes adjacent to river depict the public lands.

ILLUSTRATION V-2

EXISTING & PROJECTED BOATING PERSONS PER YEAR ON ARKANSAS RIVER BY ALTERNATIVE

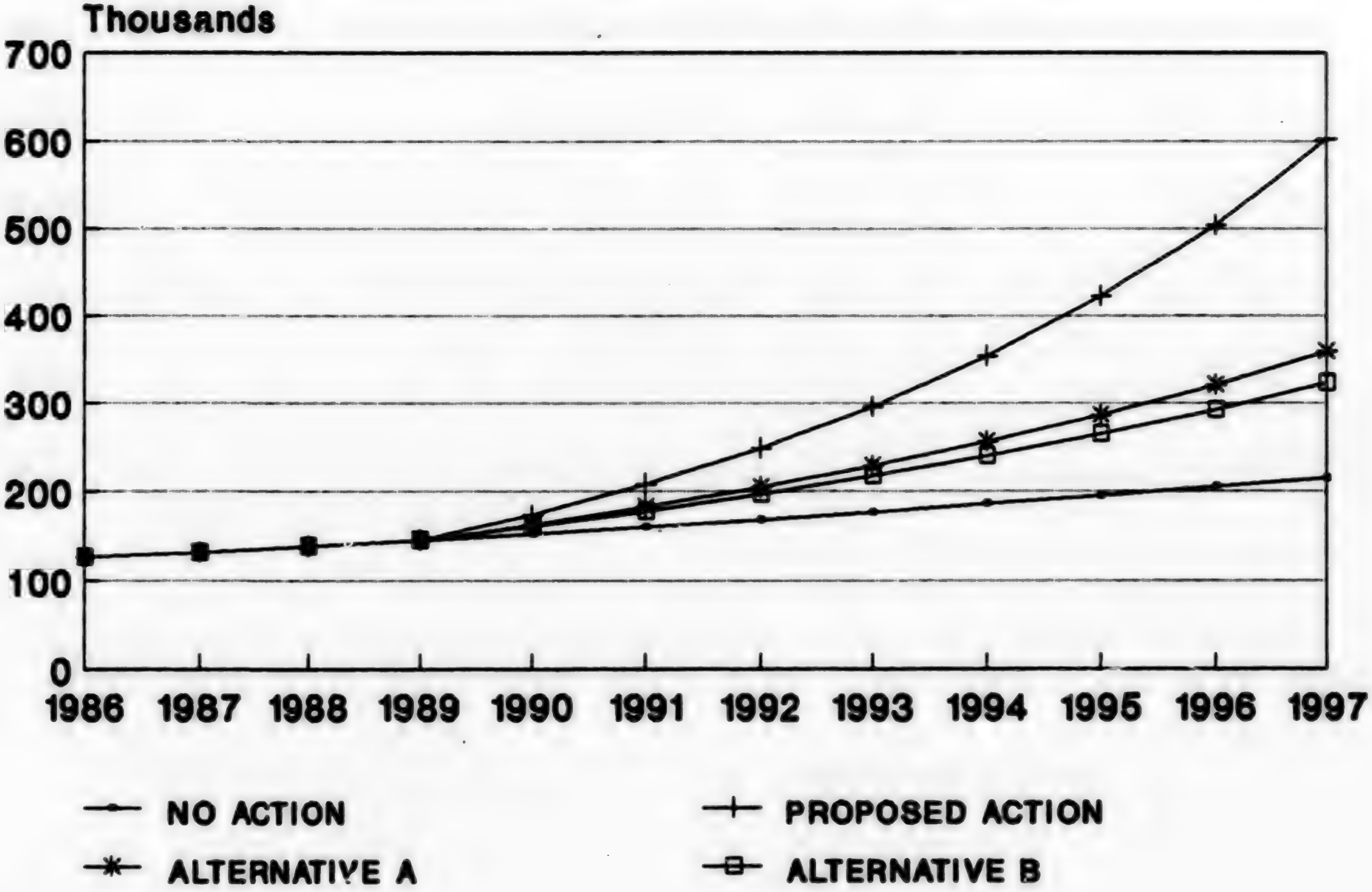


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ILLUSTRATION V-3

BOATING PERSONS PER YEAR ON ARKANSAS RIVER BY ALTERNATIVE

Year	No Action	Proposed Action	Alternative A	Alternative B
1986	126,600	126,600	126,600	126,600
1987	132,200	132,200	132,200	132,200
1988	138,810	138,810	138,810	138,810
1989	145,750	145,750	145,750	145,750
1990	153,038	174,031	163,147	161,012
1991	160,690	207,799	182,621	177,873
1992	168,724	248,120	204,418	196,499
1993	177,161	296,264	228,818	217,076
1994	186,019	353,750	256,130	239,807
1995	195,320	422,391	286,703	264,919
1996	205,086	504,350	320,924	292,661
1997	215,340	602,213	359,230	323,307

ILLUSTRATION V-4

BOATING PERSONS PER TIME PERIOD PER SEGMENT FOR ARKANSAS RIVER 1997 PROPOSED ACTION

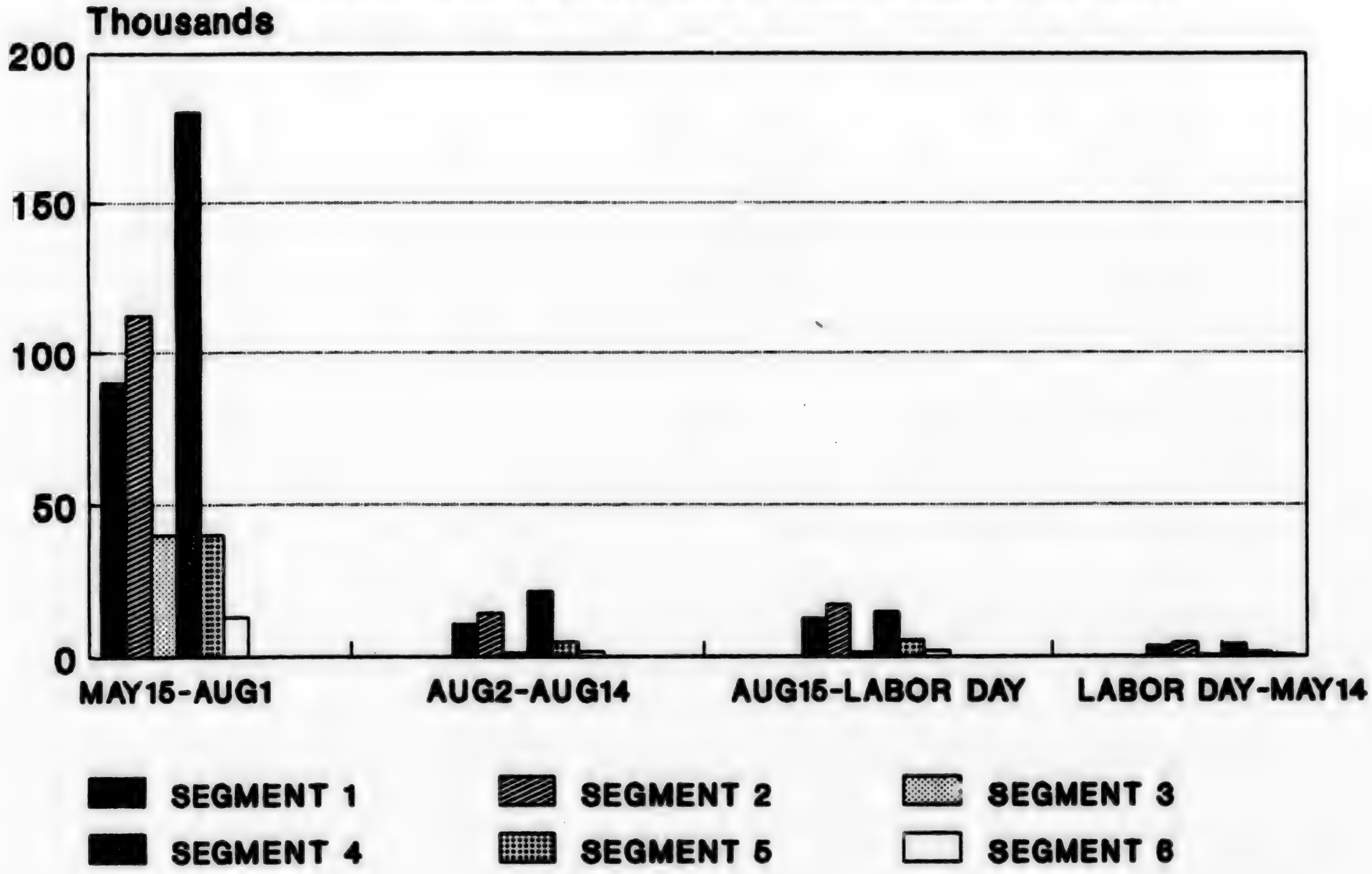

ILLUSTRATION V-5

BOATING PERSONS PER TIME PERIOD PER SEGMENT FOR ARKANSAS RIVER 1997 ALTERNATIVE A

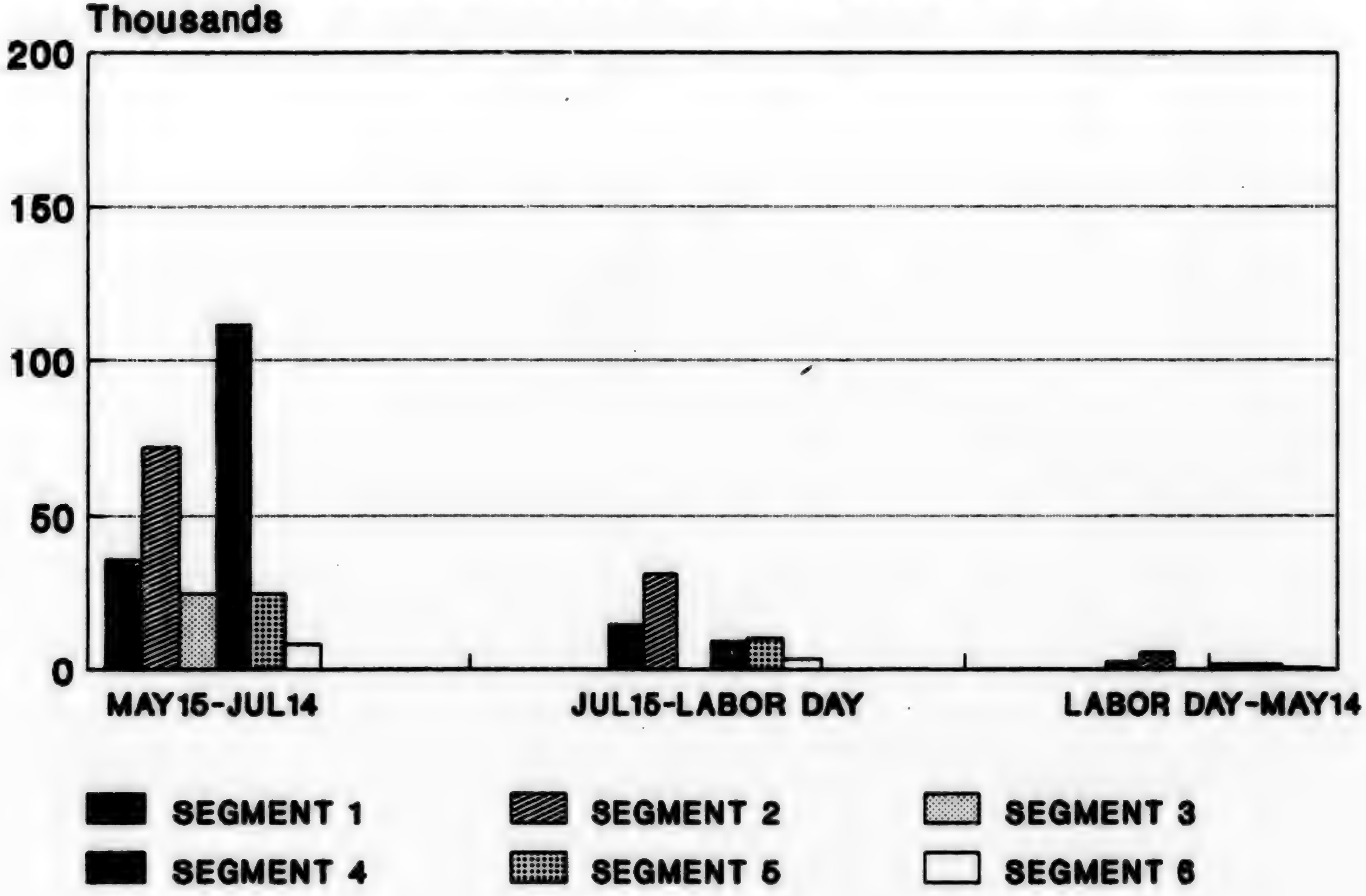

ILLUSTRATION V-6

RECREATION CHARACTER CLASS PRESCRIPTIONS BY ALTERNATIVE *
For the Arkansas River: 1997

River Segment		Back Country	Walk -In	Semi-Primitive Motorized	Roaded Open Country	Highway Rural	Developed Urban
#1: Leadville to Buena Vista	Along River Corridor				P *P* p S *S* s M *M* m	**P** **S** **M**	
	At Intensively Developed Recreation Sites				P *P* p S *S* s M *M* m	**P** **S** **M**	
#2: Buena Vista to Salida	Along River Corridor				**P** P *P* p S *S* s **M** M *M* m	**S**	
	At Intensively Developed Recreation Sites				p s m	**P** P *P* **S** S *S* **M** M *M*	
#3: Salida to Vallie Bridge	Along River Corridor				S *S* s M *M* m	**P** P *P* p **S** **M**	
	At Intensively Developed Recreation Sites					**P** P *P* p **S** S *S* s **M** M *M* m	
#4: Vallie Bridge to Parkdale	Along River Corridor					**P** P *P* p **S** S *S* s **M** M *M* m	
	At Intensively Developed Recreation Sites					P *P* p S *S* s M *M* m	**P** **S** **M**
#5: Parkdale to Canon City	Along River Corridor				**P** P *P* p **S** S *S* s **M** M *M* m		
	At Intensively Developed Recreation Sites					**P** p *P* p S *S* s **M** M *M* m	**S**
#6: Canon City to Pueblo Reservoir	Along River Corridor				P *P* p **S** S *S* s **M** M *M* m	**P**	
	At Intensively Developed Recreation Sites				**P** P *P* p **S** S *S* s **M** M *M* m		

* Legend:

Proposed Action = **P S M**
Alternative A = P S M
Alternative B = *P S M*
Alternative C = p s m

P P *P* p = **Physical Characteristics** (Land & Facilities)
S S *S* s = **Social Characteristics** (Visitors & Their Evidence)
M M *M* m = **Managerial Characteristics** (Management of the Land and Visitors)

106

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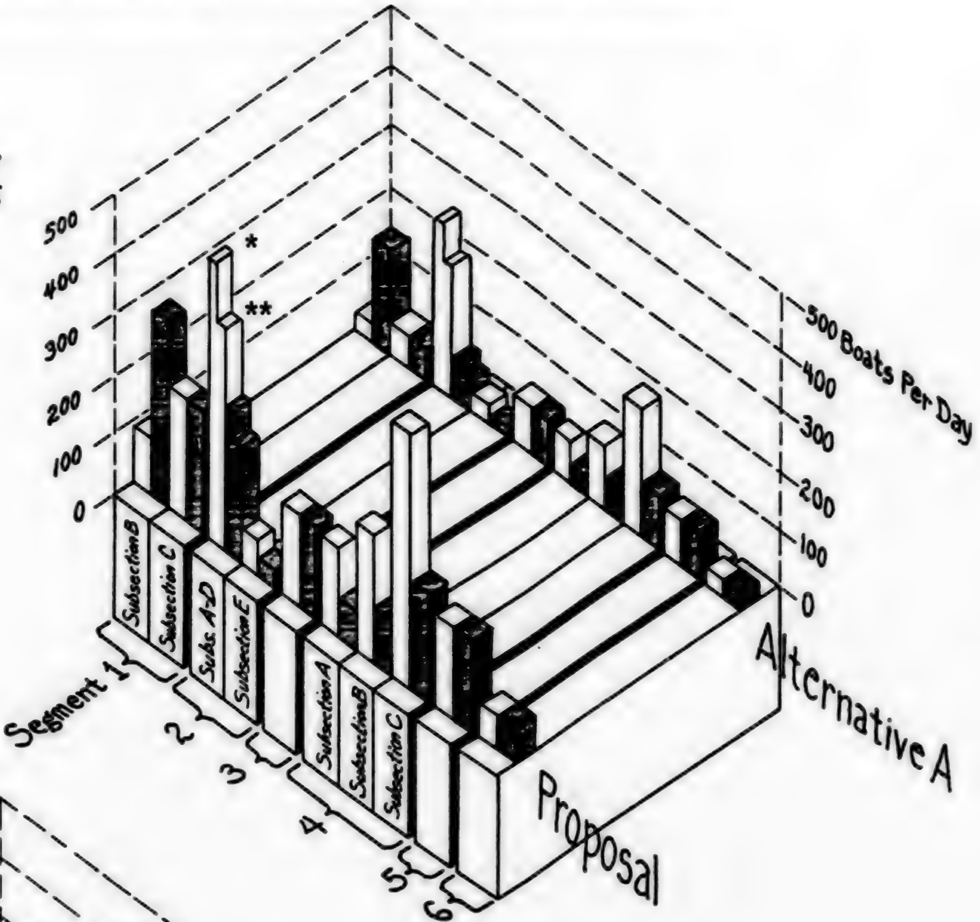
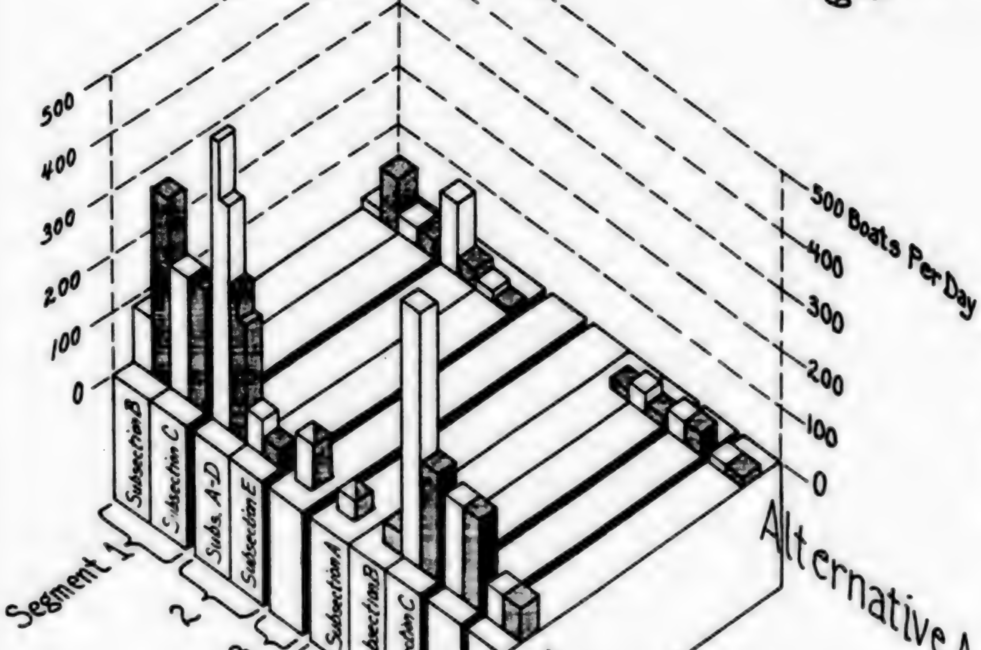
ILLUSTRATION V-7

RECREATION CARRYING CAPACITIES FOR RIVER CORRIDOR

For Early Summer
—Primary Boating
Season



For Late Summer
—Primary Fishing
Season



LEGEND:

■ = commercial
☐ = private
▨ = commercial
&/or private
* = weekend day
capacities
** = weekday
capacities

107

into a Cooperative Management Agreement (CMA) at the plan's conclusion. It also envisions that DPOR would still implement this plan by managing all river recreation on public lands that is presently under BLM management. BLM would continue to manage all other multiple uses. At the same time, it anticipates that DPOR would be providing on-river recreation management under the provisions of Colorado House Bill 1253. As in the proposed action, both of these authorizations, the CMA and H.B. 1253, would still allow the area to be managed as a State Recreation Area.

But there are important differences between this alternative and the proposed action. Differences lie in the intensity of recreation and the nature of trade offs envisioned between competing or conflicting recreation activities. In general, the intensity of public recreation use and of facility developments needed to accommodate that use are substantially less under this alternative, particularly for river boating. More specifically, the numbers of recreation site developments do not necessarily change, but carrying capacities prescribed for each are substantially reduced.

This alternative does not necessarily accommodate as much of each user group's desires on every river segment and subsection as does the management proposal. Some segments and sections are more clearly targeted for certain types of recreation than for others. Thus it reflects greater tradeoffs from segment to segment than does the proposal.

Rationale for this alternative comes from concerns which have been expressed about the intensity of recreation use and management envisioned in the proposed action. Some of those concerns have been voiced in minority reports from DPOR's Advisory Committee. Most relate to prescribed carrying capacities for boating and their corresponding effects on the character of the recreation resource. They involve possible user conflicts that may result from the perceived accommodation of too much use or too many potentially conflicting uses within the same river segment (see river segment maps on Illustration V-8).

Alternative B: LAND-BASED

This alternative analyzes what would occur if, at the plan's conclusion, Colorado House Bill 1253 were not to be implemented. Were this to occur, establishment of an Arkansas River State Recreation Area would still appear to be feasible, but in this case it would only consist of those public lands to be considered in the BLM-DPOR Cooperative Management Agreement and any other lands that may be managed for recreation in partnership with DPOR (e.g., municipalities, National Forest lands, and so forth). Here BLM and DPOR would cooperate in a partnership arrangement for management of affected public lands. DPOR would manage river-related recreation use and BLM would continue to manage all other multiple uses.

The greatest difference between this alternative and both the proposed action and Alternative B would be an inability to treat the entire river system as a single unit. The management void on this river that was filled by passage of H.B. 1253 would again exist. Even all 16 cooperators in the original intergovernmental cooperative agreement, acting in concert, would not be able to provide fully integrated management of the river under this alternative. Consequently, effective coordination and integration of management actions throughout the river's length would be greatly hampered.

In terms of management scope, this alternative would be substantially narrower than both the proposed action and Alternative A. First of all, it would be limited only to the public lands. Absent the on-water recreation management authorities conveyed by H.B. 1253, DPOR's capability to regulate on-water use and thus effectively distribute visitor use on the public lands, areally and diurnally, would be missing. Thus there would also be no wherewithal for managing any river recreation use originating on private lands.

Differences between this alternative and the proposed action would also occur in both the intensity of recreation and the nature of trade offs envisioned between competing activities. Reasons for changes in management intensity would differ from those for Alternative A. Here, without on-water management authority, allowable recreation use volumes on affected public lands would have to be reduced since there would be no way to ensure the balanced distribution of as much use as envisioned in the proposed action, both in space and time. The amount of use may even be somewhat less than for Alternative A.

Rationale for this alternative comes from the need for this plan to address what would occur if the Parks Board chooses not to implement H.B. 1253, or if the Bill were to sunset when it comes up for review in 1992 or thereafter. Unless this alternative is addressed here, the plan would provide no management direction should those conditions occur (see river segment maps on Illustration V-8).

Alternative C: NO ACTION

This alternative analyzes the management situation from the perspective of what would occur if, at the plan's conclusion, H.B. 1253 were either to fail implementation or sunset, and the BLM-DPOR CMA were not to be implemented. Without either of these authorizing mechanisms, both agencies would have to independently manage all areas within their own jurisdiction. This means that DPOR's role would change rather substantially, leaving only responsibility for managing boating safety regulations on the river. BLM would continue managing public lands recreation. Under this alternative, establishment of an Arkansas River State Recreation Area would not be feasible.

In terms of management scope, this alternative would cover the same geographic area as Alternative B. The principal difference between this alternative and Alternative B lies in the resulting intensity of recreation use and management. Without the BLM-DPOR CMA, innovative recreation management actions on the public lands would be limited to what BLM could implement on its own. Nevertheless, under the existing cooperative spirit between BLM and DPOR, the efforts of both agencies could still be coordinated to help achieve management goals and objectives.

Rationale for this this alternative is that, though public support for the CMA envisioned in the proposed action is expected to continue through the plan's completion, the possibility exists that it may not. Unless this alternative is considered here, the plan would be instantly rendered useless if public support for the management scheme envisioned in the proposal were no longer there at the conclusion of this effort.

This "No Action" alternative, required by regulation, projects continuation of present management. This level of recreation resource, visitor, and facility management does not imply that everything is on hold, circa 1988. As in the past and as with each of the other alternatives, this would still include the return of Special Recreation Permit use fees for on-the-ground management. In addition, continued moderate increases in recreation management capability would be expected through annual appropriations, though of a much smaller magnitude than that envisioned either for Alternatives A or B (see Illustration V-9 for a tabular comparison of the three alternatives and the proposal).

Other Alternatives Considered by Not Analyzed

Several alternatives were considered but were dismissed from further analysis in this document. Among those considered were the following; statements of reasons for their dismissal accompany each.

One alternative would have considered reducing allowable visitor use even beyond what now occurs. Reasons for its dismissal are several. While present use levels are already a concern to several visitors, much of the concern stems from a the previous absence of authority to properly control and redistribute that use. Most would agree that total amounts of use are not yet what they could be, but the greatest problem is one of peak period crowding. So rather than reducing total use volumes, it appears that what is needed is better management of that which already occurs. In addition, public support for restricting total use numbers below present levels appears to be lacking among most recreation user groups.

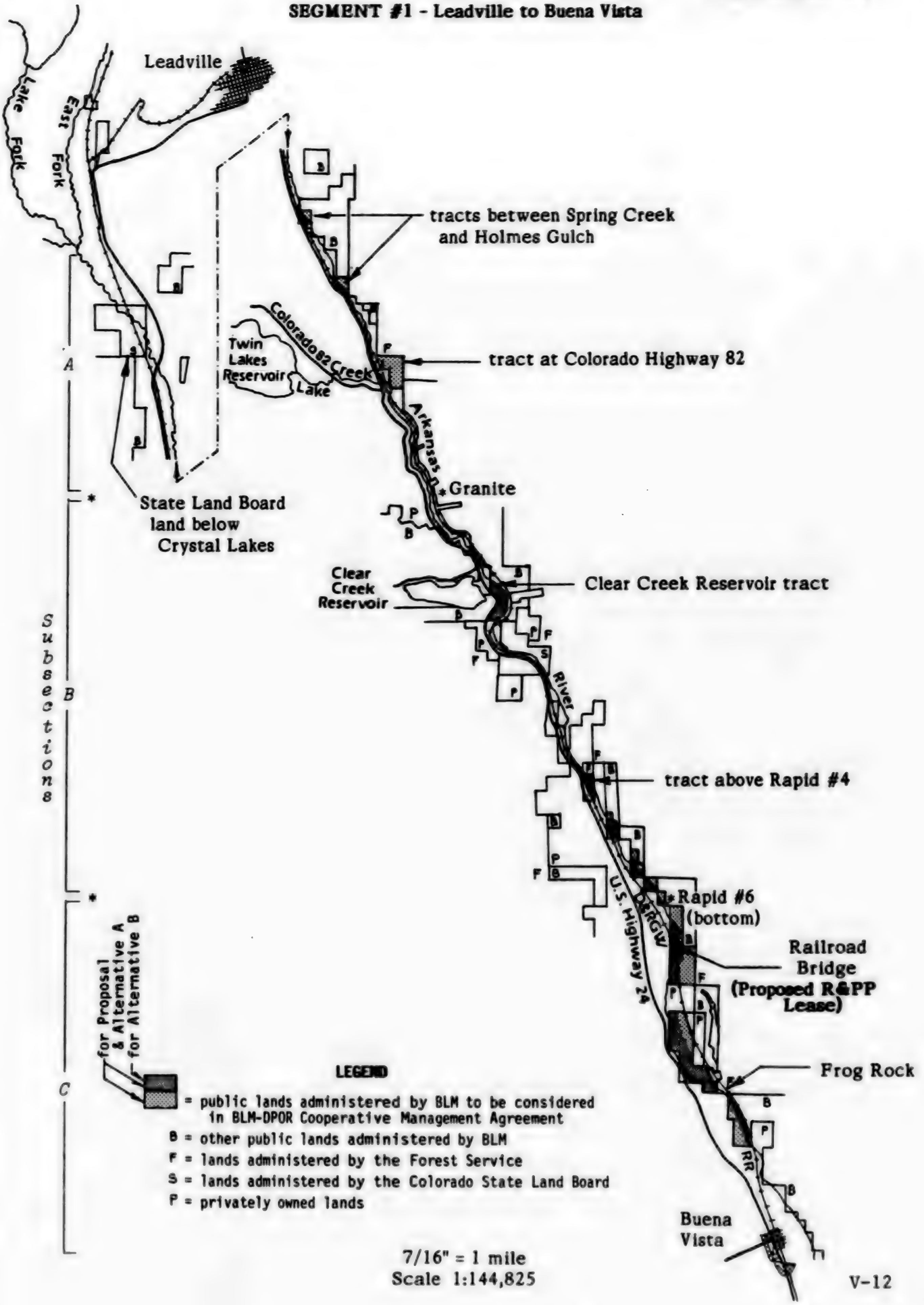
Another option that could have been considered was a variation of Alternative B, its exact opposite. Here on-river recreation management authorities would exist under H.B. 1253, but there would be no Cooperative Management Agreement (CMA) between BLM and DPOR. This means that DPOR would proceed to manage total on-river recreation use but would have no authority to manage recreation use on the adjacent public lands. Since public support for the Cooperative Management Agreement between BLM and DPOR appears to be strong among the local communities and among most recreation user groups (though clearly not all agree), it would seem to be largely an academic exercise to consider this management option. Furthermore, this option would not be responsive to earlier input from the initial BLM task force that recreation management for the river should be under a single entity.

Yet another alternative that was considered in the early stages of this planning effort was to place the river under the management of an administrative board. The idea was that this board would have been comprised of all affected federal, state, and county governments and municipalities as well as private landowner representatives. Most of the cooperators in this planning effort agreed early on that such an arrangement would have far too unwieldly and cumbersome to adminsiter efficiently.

One last potential alternative deserving mention was a variation of the last option above. This was to cooperate with the four affected counties alone who would in turn provide needed on-river recreation management as well as key public lands parcels through their combined zoning authorities and law enforcemnt capabilities. Though this would have been easier, the task force still opted out for a single managing entity for reasons of efficiency and manageability.

116

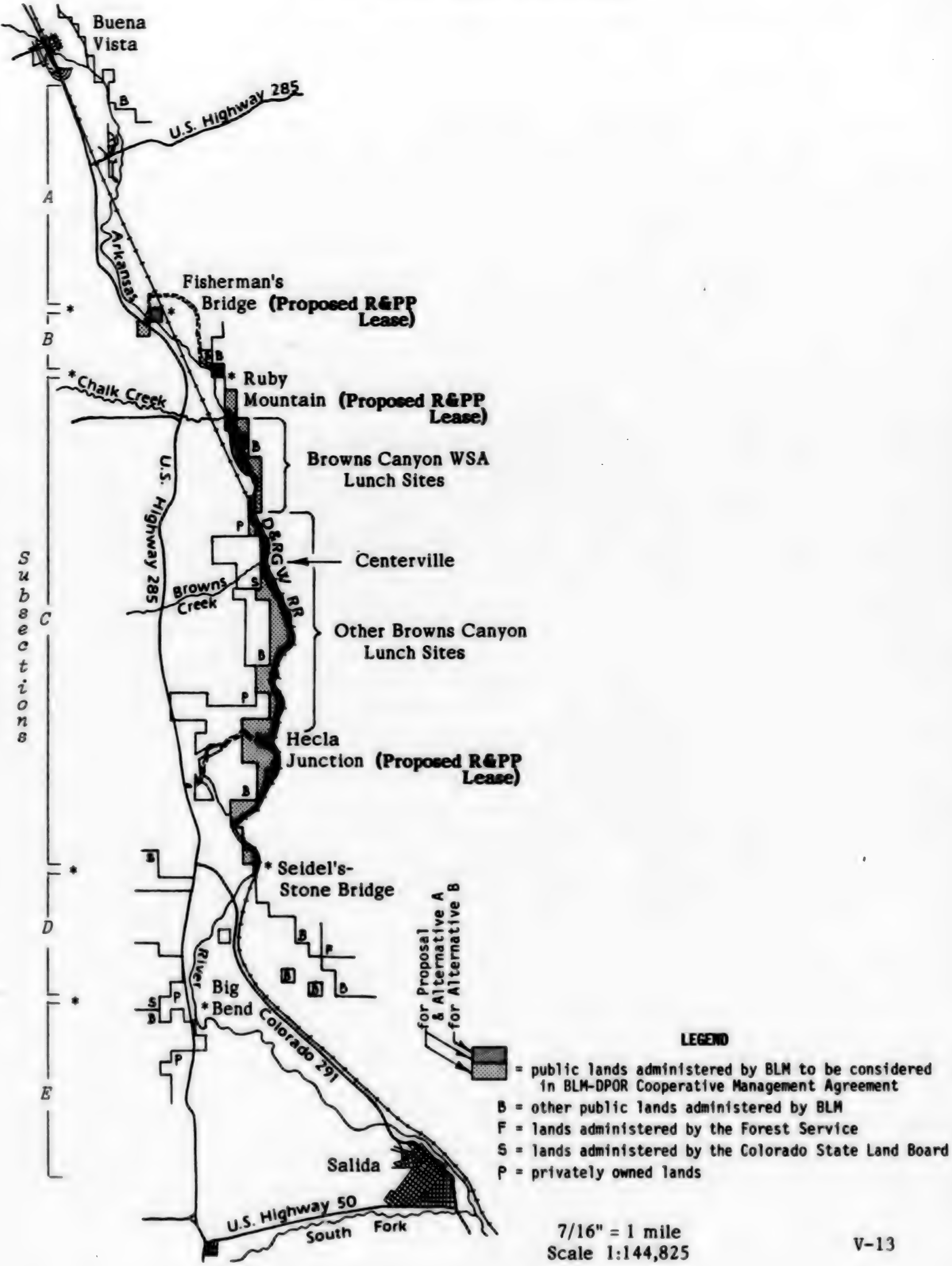
SEGMENT #1 - Leadville to Buena Vista


Leadville
Lake Fork
East Fork
tracts between Spring Creek and Holmes Gulch
Colorado 82
Twin Lakes Reservoir
Lake Creek
tract at Colorado Highway 82
Arkansas River
Granite
State Land Board land below Crystal Lakes
Clear Creek Reservoir
Clear Creek Reservoir tract
tract above Rapid #4
Rapid #6 (bottom)
Railroad Bridge (Proposed R&PP Lease)
U.S. Highway 24
D&RGW
Frog Rock
RR
Buena Vista
Subsections
A
B
C
B
F
S
P
LEGEND
for Proposal & Alternative A
for Alternative B
= public lands administered by BLM to be considered in BLM-DPOR Cooperative Management Agreement
B = other public lands administered by BLM
F = lands administered by the Forest Service
S = lands administered by the Colorado State Land Board
P = privately owned lands

7/16" = 1 mile
Scale 1:144,825

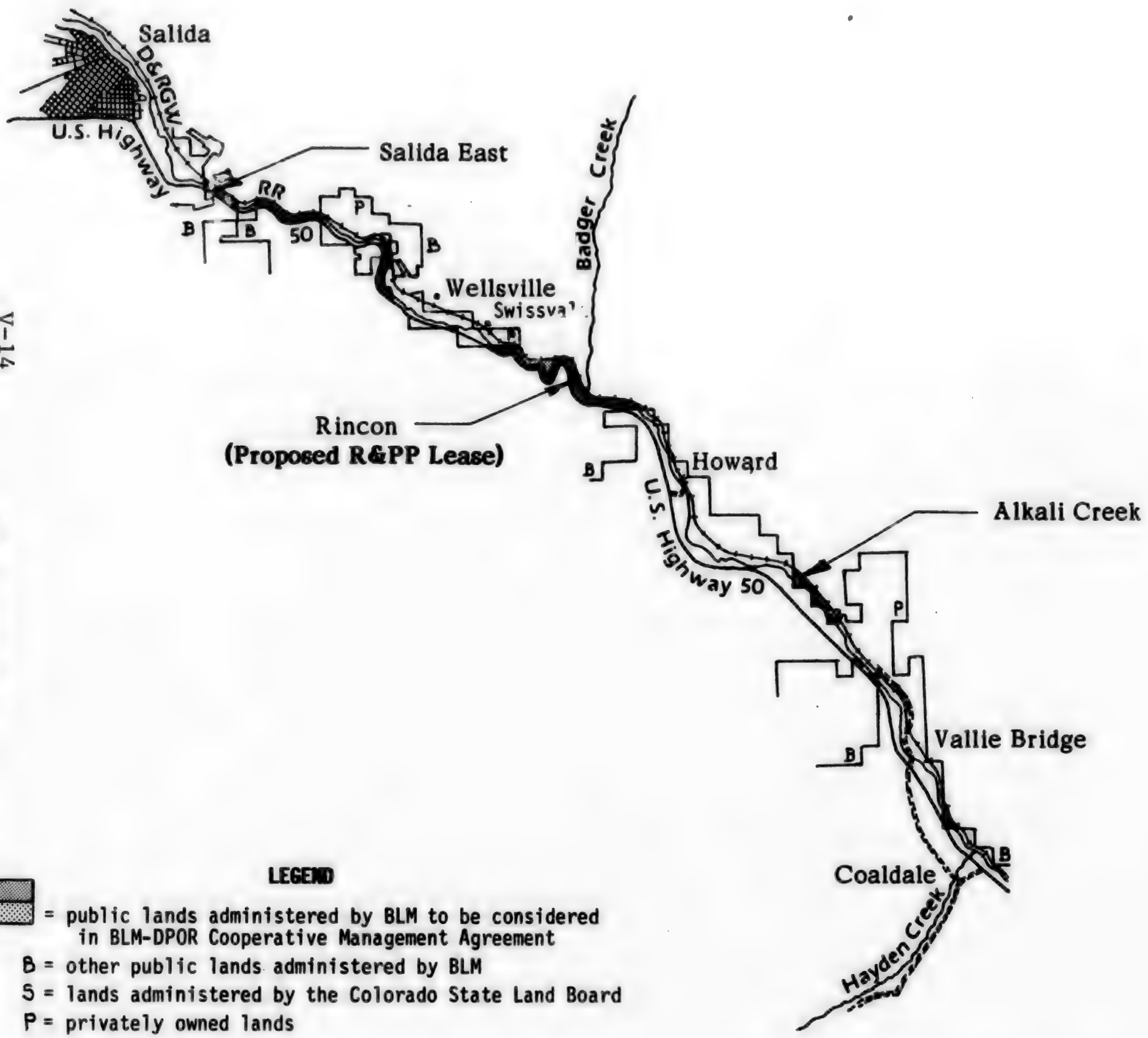
ILLUSTRATION V-8

SEGMENT #2 - Buena Vista to Salida


Buena Vista
U.S. Highway 285
B
A
Arkansas
Fisherman's Bridge (Proposed R&PP Lease)
*
B
B
* Ruby Mountain (Proposed R&PP Lease)
* Chalk Creek
Browns Canyon WSA Lunch Sites
U.S. Highway 285
P
D&RGW RR
Centerville
S
Browns Creek
Subsections
C
Other Browns Canyon Lunch Sites
B
P
Hecla Junction (Proposed R&PP Lease)
B
* Seidel's-Stone Bridge
B
D
B
F
B
B
B
River
Big Bend
S
P
B
Colorado 291
for Proposal & Alternative A
for Alternative B
E
P
Salida
U.S. Highway 50
South Fork
LEGEND
▨ = public lands administered by BLM to be considered in BLM-DPOR Cooperative Management Agreement
B = other public lands administered by BLM
F = lands administered by the Forest Service
S = lands administered by the Colorado State Land Board
P = privately owned lands
7/16" = 1 mile
Scale 1:144,825

SEGMENT #3 - Salida to Vallie Bridge

ILLUSTRATION V-8



LEGEND

For Alternative B

For Proposal and Alternative A

▨ = public lands administered by BLM to be considered in BLM-DPOR Cooperative Management Agreement

B = other public lands administered by BLM

S = lands administered by the Colorado State Land Board

P = privately owned lands

7/16" = 1 mile
Scale 1:144,825

SEGMENT #4 - Vallie Bridge to Parkdale

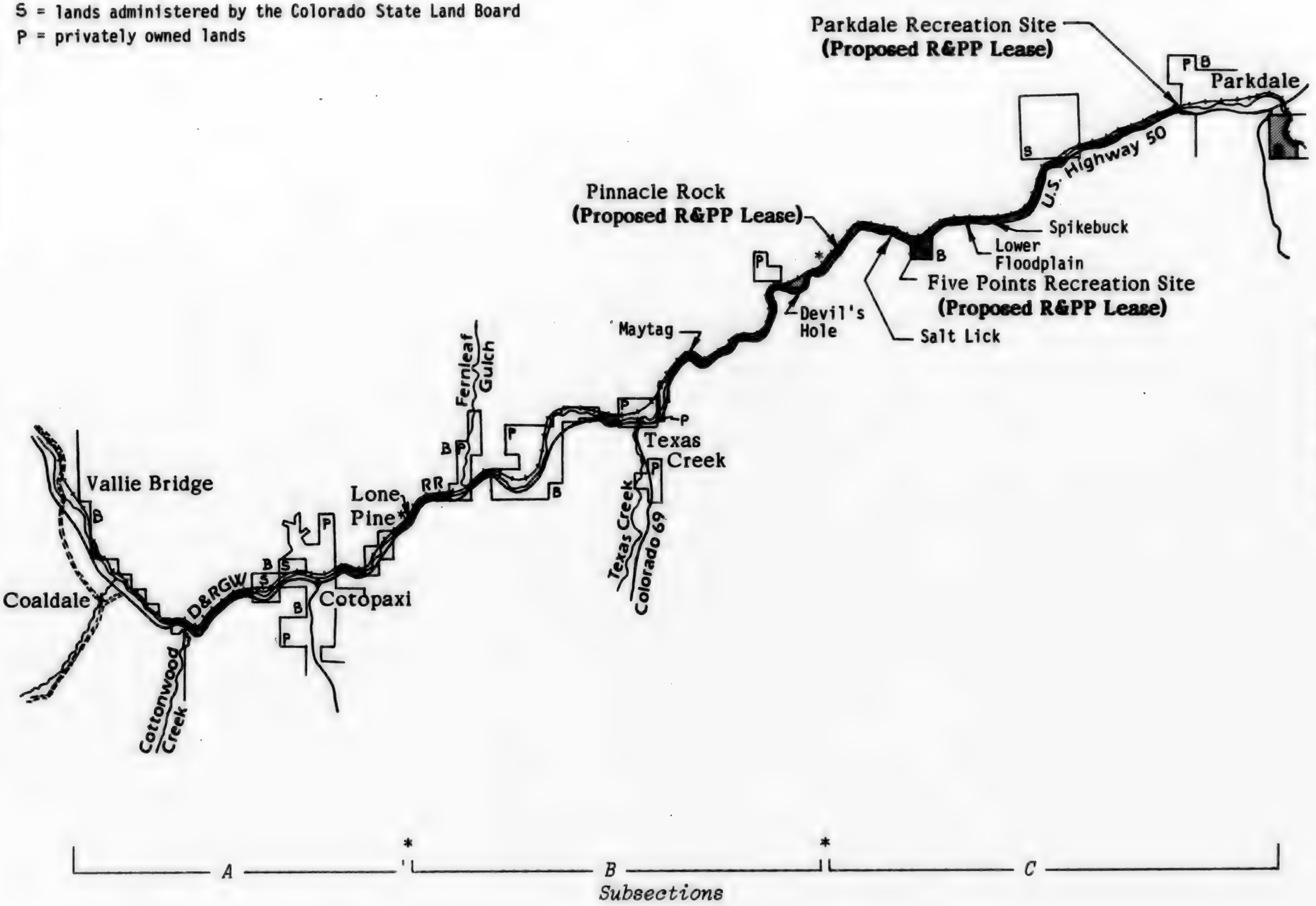
LEGEND

▨ = public lands administered by BLM to be considered in BLM-DPOR Cooperative Management Agreement
- for Proposal and Alternative A
- for Alternative B

B = other public lands administered by BLM

S = lands administered by the Colorado State Land Board

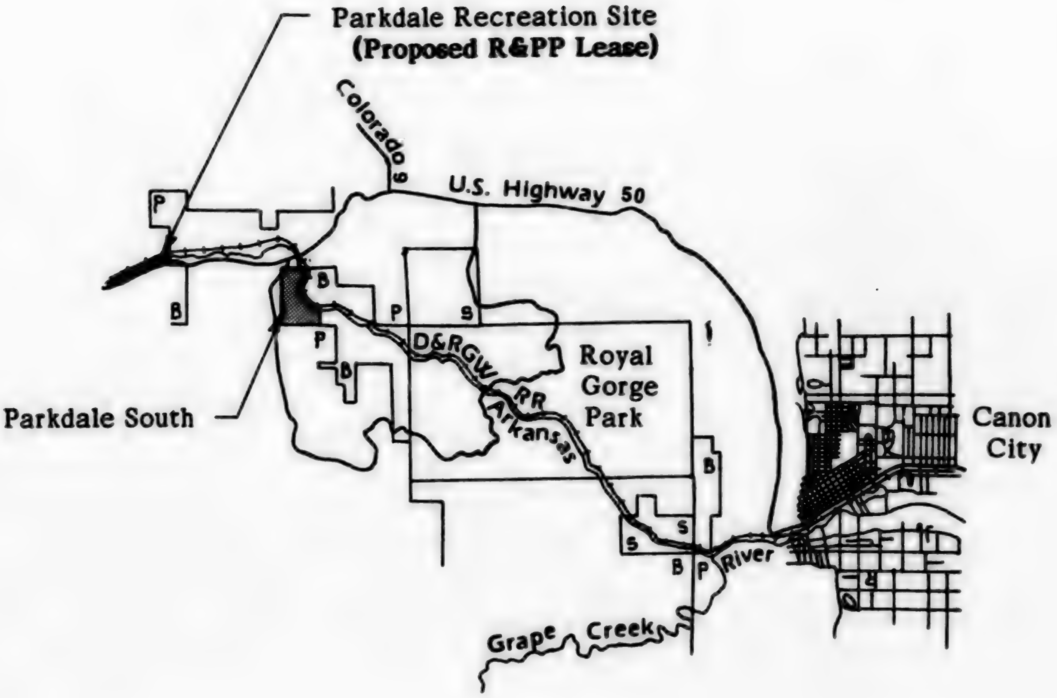
P = privately owned lands



7/16" = 1 mile
Scale 1:144,825

ILLUSTRATION V-8

SEGMENT #5 - Parkdale to Canon City



for Proposal
& Alternative A
for Alternative B

LEGEND

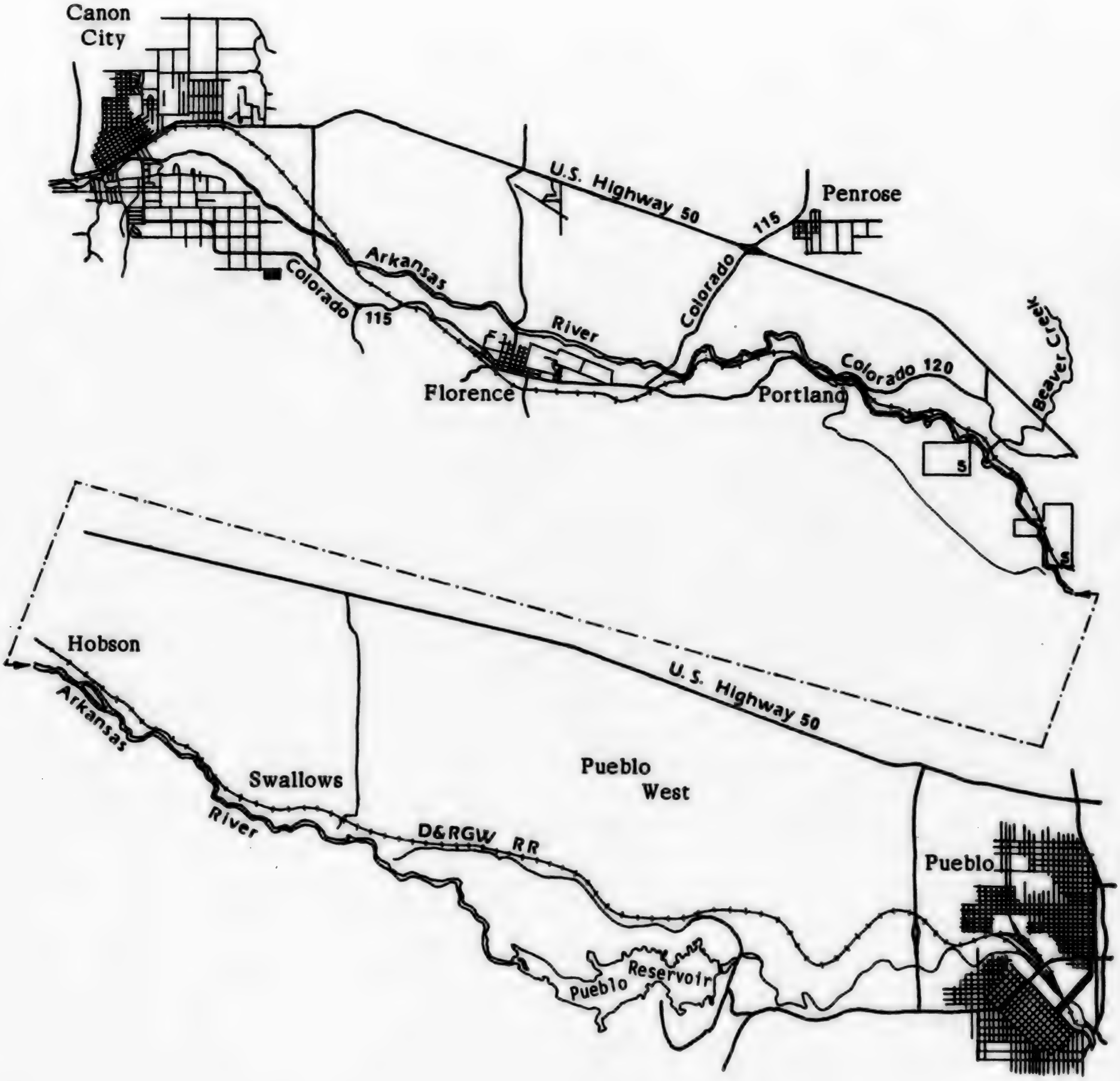
▨ = public lands administered by BLM to be considered in BLM-DPOR Cooperative Management Agreement
B = other public lands administered by BLM
S = lands administered by the Colorado State Land Board
P = privately owned lands

7/16" = 1 mile
Scale 1:144,825

SEGMENT #6 - Canon City to Pueblo

LEGEND

S = lands administered by the Colorado State Land Board



7/16" = 1 mile
Scale 1:144,825

116

ILLUSTRATION V-9

CHARACTERISTICS OF PROPOSED ACTION/GUIDELINES FOR ALTERNATIVES

Factor	Proposed Action: Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land Based	Alternative C: No Action
BASIS	Given from DPOR's Advisory Committee	Reflects DPOR's Advisory Committee Minority Reports	Based on what would happen if H.B. 1253 were not implemented or if it sunset	What would happen without both H.B. 1253 and CMA
ESSENCE	By design, increased levels of use and more intensive facility development and visitor management	By design, reduced levels of use and less intensive facility development and visitor management	Without on-river manage-authority, no control over character of the entire river corridor, only public lands	Without either on-river authority or the CMA, management is limited to public lands only and would not have access to state funding
SCOPE OF RECREATION PRESCRIPTIONS	Recreation character class prescriptons apply to entire river corridor	Recreation character class prescriptions apply to entire river corridor	Recreation character class prescriptions apply only to what is manageable, the public lands	Recreation character class prescriptions apply to what is manageable, the public lands
ADMINISTRATIVE LIMITATIONS	Site capacities reflect corridor capacities set by the Advisory Committee without any significant management limitations	Site capacities reflect corridor capacities designed into this alternative for lower use and less intensive facility development without any significant management limitations	Site capacities reflect management limitations of having no on-water management authority but still cooperative management and funding	Site capacities reflect management limitations of having no on-water management authority and no opportunity for cooperative management and funding
MANAGEABILITY-- AREA OF USE	Recreation use on entire river corridor is manageable	Recreation use on entire river corridor is manageable	Only recreation use on public lands is manageable	Only recreation use on public lands is manageable
MANAGEABILITY-- TYPES AND AMOUNTS OF USE	Both types and amounts of use are completely manageable	Both types and amounts of use are completely manageable	Types and amounts of use are not completely manageable (i.e., no on-water authority), but State funding will help provide capability to deal with use problems on-site	Types and amounts of use are not completely manageable (i.e., no on-water authority), and state funding will not be available to help provide capability for dealing with on-site problems
USER FEES AND FEE DISPOSITION	User fees required for public lands and state user fees (i.e., Parks Pass, camping fees, on-river commercial use fees, etc.) are returned for on-the-ground management	User fees required for public lands and state user fees (i.e., Parks Pass, camping fees, on-river commercial use fees, etc.) are returned for on-the-ground management	User fees required for public lands and state user fees (i.e., Parks Pass, camping fees, etc.) are returned for on-the-ground management	User fees required for public lands are returned for on-the-ground management

A. Objectives

1. Area-Wide

Chapter IV presents the objectives portion of the Management and Development Proposal or Proposed Action. Some of these are of an area-wide nature; others are specific to the six segments of the river. This narrative presents alternatives to area-wide objectives; the tables which follow present alternatives to segment-specific objectives.

The Management and Development Proposal contains a large number of area-wide objectives (see Chapter IV). Most of these also apply to each of the alternatives. Only those which are substantially changed or deleted from by the alternatives are addressed here. Necessary additions are also presented. Objectives referenced in this narrative are those which occur in Chapter IV above; do not try to find the objectives referred to in the segment-specific tables within this chapter, Chapter V.

a. Resource Management

(1) Protection

It is the view of all alternatives that the reduction of highway deer kills, included within the Proposal under Objective VII-B, is not within their scope. This action does not appear to be essential to proper management of the Arkansas River.

b. Visitor Management

(1) Visitor Regulation and Enforcement

Objective V-B further provides for on-river law enforcement authority. This would only be achievable in the Proposed Action and Alternative A. Since DPOR would not implement/be able to implement H.B. 1253 under Alternatives B and C, no on-river authority would exist. Implications for management are that the river corridor itself would be unmanageable under B and C (see also the following river-specific alternative objectives).

c. Facility Management (none affected)

d. Access and Easement Acquisition (none affected)

e. Administration

The bearing which user fee revenue generated has on the level of facilities and services provided is addressed by Objective XII-C. It specifies that facilities and services should be provided at least at a level equal to the fees collected. The wherewithal to ensure that this occurs would also be ensured under Alternatives A and B by the enabling Cooperative Management Agreement between BLM and DPOR. While this is still the intent of BLM under the No-Action alternative, assurance that user fee revenues generated on public lands along the river are in fact returned is left to the discretion of the Congress. Amendments to the Land and Water Conservation Act contained

118

in the Budget Reconciliation Act of 1987 make it the perrogative of the Congress whether or not to return user fee revenues for on-the-ground management in the years following its collection. Furthermore, this leaves regular recreation management appropriations subject to a reduction equivalent to the amount collected in user fees by the Congress.

Objective XIII-A specifies that management priorities will be determined by DPOR, based on the recreation management plan and available funding and resources. Both Alternatives A and B as well as C take the view that the prerogative for determining management priorities is set down in the plan itself and not left to the managing agency's discretion--be it DPOR under Alternatives A and B or BLM under Alternative C. All alternatives do share in common with the Management and Development proposal that the wherewithal to carry out planned priorities is subject to available funding and human resources.

(1) Coordination with Others

A number of objectives in the proposal deal with increased coordination within state government to ensure timely and efficient communication and liason between DPOR and other state agencies in the management of Arkansas Rier recreation. For example, IV-B is to work with the Governor's office to improve coordination and communication between DPOR and the Highway Department. This would still apply under Alternatives A and B, BLM would continue to coordinate directly with all affected state agencies under Alternative C.

(2) Staffing

Objective V-A requires that adequate law enforcement be provided in key areas to achieve plan objectives. DPOR would have the wherewithal to bring this about under both Alternatives A and B, but under the no-action alternative (C), it would be left up to BLM. BLM would continue its cooperative work with various law enforcement entities in local government, providing cooperative funding for basic support law enforcement assistance on the public lands. However, while the agency has the needed law enforcement authoritiy, it has not had the capability to provide an on-the-ground law enforcement ranger presence in the past. A BLM ranger presence would be an integral part of Alternative C; the potential return of user fee revenue for on-the-ground management, subject to Congressional appropriation, would help provide needed funding. Nevertheless, the actual on-the-ground ranger support would be far greater under the proposal and Alternatives A and B.

2. Segment-Specific

Tables on the following pages compare objectives of each alternative with those of the Proposed Action. These compare objectives by each of the six river segments included in the plan according to these four basic parameters.

a. Recreation Character Class Prescriptions

These answer one of the most basic questions of the recreation planning process, "What kind of recreation do we want to provide?" Illustration V-1 sets forth a short definition of each character class as it relates to the three parameters shown: Physical (the character of the land, its resources and facilities), Social (the nature of recreation visitation and the presence of other people), and Managerial (how land resources and recreation users are managed).

b. River Corridor Carrying Capacities

These help give definition to character class prescriptions, making them truly objective: specific, quantifiable, results-oriented, and attainable. These measures apply to the entire river corridor as an overall measure of how much total on-water use is envisioned.

c. Developed Recreation Site Capacities

These quantify management intent on the land adjacent to the river. They focus on rather finite recreation sites and give direction to the management actions to be implemented there.

d. Management Emphasis

As in the Proposl, a number of different recreation activities will be taking place under each alternative. Because of their potentially conflicting nature, some will ultimately receive greater emphasis, and others will be deemphasized. The purpose of these statements of management emphasis is to communicate the intent of where this emphasis should ocur. Because these are objectives and not implementing actions, there is no implied assignment of any priorities for the implementing actions associated with each area of emphasis.

Segment #1 - Leadville to Buena Vista

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
A. OBJECTIVES					
1. Recreation Character Class Prescriptions	On River Corridor:				
	- Physical	Highway Rural	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Social	Highway Rural	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Managerial	Highway Rural	Roaded Open Country	Roaded Open Country	Roaded Open Country
	At Intensively Developed Sites:				
	- Physical	[none set] (Assumed will	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Social	[none set] be Highway	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Managerial	[none set] Rural)	Roaded Open Country	Roaded Open Country	Roaded Open Country
2. River Corridor Carrying Capacities (Boats/Day)	Subsection A:				
	- Leadville to Granite	[none set] [no boating assumed]	No boating use	Unmanageable	Unmanageable
	Subsection B:				
	- Granite to Bottom of Rapid #6	400:90 comm./310 priv., daily (22:78%)	5/15-7/14: 200:25 comm./175 priv., daily (12:88%)	Unmanageable	Unmanageable
			7/15-5/14: 100:12 comm./88 priv., daily (12:88%)	Unmanageable	Unmanageable
	Subsection C:				
	- Bottom of Rapid #6 to Buena Vista	400:200 comm./200 priv., daily (50:50%)	5/15-7/14: 100:50 comm./50 priv., daily (50:50%)	Unmanageable	Unmanageable
			7/15-5/14: 50:25 comm./25 priv., daily (50:50%)	Unmanageable	Unmanageable
3. Developed Recreation Site Capacities	BPD/BPH/BAOT/PAOT:**				
	- Above Rapid #4 (PI) 1/	180 23 6 65	90 11 3 33	90 11 3 33 3/	60 8 2 22 4/
	- At RR Bridge (PI/TO) 2/	160 20 5 50	80 10 3 25	80 10 3 25	53 7 2 17
	- At Frog Rock	205 26 7 75	100 13 4 38	100 13 4 38	68 9 2 25
4. Management Emphasis	Subsection A:	- 1st: fishing	- Stream rehabilitation, no boating	- 1st: stream rehabilitation	- 1st, stream rehabilitation
	Subsection B:	- 1st: private boating, 2nd: comm. boating & fishing	- 1st: private boating 2nd: comm. boating & fishing	- 1st: private boating, 2nd: comm. boating & fishing	- 1st: private boating, 2nd: comm. boating & fishing
	Subsection C:	- Provide equally for all uses	- Provide equally for all uses	- Provide equally for all uses	- Provide equally for uses

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Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action

Notes:

* See also Area-Wide Actions

** BPD = boats per day; BPH = boats per hour; BAOT = boats at one time; PAOT = persons at one time

1/ PI = put ins

2/ TO = take outs

3/ Site capacities here are the same as in Alternative A, even though capacities for the river corridor are unmanageable. However, fewer total visitors could be accommodated over time because the absence of on-water authority would not allow managing on-water use in a manner to spread out heavy visitation peaks, both by area and over time.

4/ Management and Development Proposal ÷ 3, based on current use, use trends, and professional judgment, given parameters of management and projected funding trends.

Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
A. OBJECTIVES					
1. Recreation Character Class Prescriptions	On River Corridor:				
	- Physical	Roaded Open Country	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Social	Highway Rural	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Managerial	Roaded Open Country	Roaded Open Country	Roaded Open Country	Roaded Open Country
	At Intensively Developed Sites:				
	- Physical	Highway Rural	Highway Rural	Highway Rural	Roaded Open Country
	- Social	Highway Rural	Highway Rural	Highway Rural	Roaded Open Country
	- Managerial	Highway Rural	Highway Rural	Highway Rural	Roaded Open Country
2. River Corridor Carrying Capacities (Boats/Day)	Subsections A-D: - A: Buena V.-Fishmns. Brdg. - B: Fshmns. Brdg.-Ruby Mtn. - C: Ruby Mtn.-Seidel's/Stone Bridge	705:470 comm./235 priv., weekends (67:33%)	5/15-7/14: 300:280 comm./70 priv., weekends (80:20%)	Unmanageable	Unmanageable
	- D: Seidel's/Stone Bridge-Big Bend	560:370 comm./190 priv. weekdays (67:33%)	280:224 comm./56 priv., weekdays (80:20%)	Unmanageable	Unmanageable
			7/15-5/14: 150:120 comm./30 priv., daily (80:20%)	Unmanageable	Unmanageable
	Subsection E: - Big Bend to Salida	5/16-7/31: 90:60 comm./30 priv. daily (67:33%)	5/15-7/14: 45:30 comm./15 priv., daily (67:33%)	Unmanageable	Unmanageable
		8/1-5/15: 15 boats per hour	7/15-5/14: 22:15 comm./7 priv., daily (67:33%)	Unmanageable	Unmanageable
3. Developed Recreation Site Capacities	BPD/BPH/BAOT/PAOT:**				
	- At Buena Vista (PI)1/	200 33 8 65	100 16 4 33	100 16 4 33 3/	-- -- -- -- 4/
	- (Misc. fishing) (PI)	30	15	15	-- -- -- --
	- (Private land launches)(PI)	295	148	148	-- -- -- --
	- Fisherman's Bridge (PI)	150 25 6 50	75 12 3 25	75 12 3 25	96 16 4 35 5/
	- Ruby Mountain -				
	- boat access (PI-TO)2/:	230 -- -- --	115	115	77
	- lunch stops:	108 48 36 255	54 24 18 128	54 24 18 128	36 16 12 85
	- Centerville -				
	- lunch stop:	18 NA 6 50	9 NA 3 25	9 NA 3 25	6 NA 2 17
	- camping:	25 NA 25 150	13 NA 13 75	13 NA 13 75	8 NA 8 50
	- Lunch stops in Browns Canyon WSA (4 sites):	9 NA 3 25	5 NA 2 13	5 NA 2 13	3 NA 1 8
	- Lunch stops between Railroad Bridge & Hecla Junction (10 sites):	18 NA 6 50	9 NA 3 25	9 NA 3 25	9 NA 2 17
	- Hecla Junction (PI/TO)	640 80 21 357	320 40 11 179	320 40 11 179	360 60 15 200 6/
	- Seidels/Stone Bridge (TO)	80 10 3 18	40 5 2 9	40 5 2 9	27 3 1 6
	- Big Bend (PI/TO)	168 28 7 120	84 14 4 60	84 14 4 60	-- -- -- --
	- Salida (PI/TO)	108 38 9 80	54 6 2 75	54 6 2 75	-- -- -- --

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Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
4. Management Emphasis	Subsection A:	- Recognize private property owner's rights/quality of life	- Recognize private property owner's rights/quality of life	- Recognize private property owner's rights/quality of life	- Recognize private property owner's rights/quality of life
	Subsection B:	- Recognize private residences & livestock operations	- Recognize private residences & livestock operations; maintain semi-remote character of resource and accommodate moderate use increases	- Recognize private residences & livestock operations; maintain semi-remote character of resource and accommodate moderate use increases	- Recognize private residences & livestock operations; maintain semi-remote character of resource and accommodate moderate use increases
	Subsection C:	- Recognize predominant public lands & premier river setting	- Recognize predominant public lands & premier river setting; maintain semi-remote character of resource and accommodate moderate use increases; emphasize boating in Brown's Canyon	- Recognize predominant public lands & premier river setting; maintain semi-remote character of resource and accommodate moderate use increases; emphasize boating in Brown's Canyon	- Recognize predominant public lands & premier river setting; maintain semi-remote character of resource and accommodate moderate use increases;emphasize boating in Brown's Canyon
	Subsection D:	- Primarily flat water boating and quality fishing; recognize residences and livestock operations	- Primarily fishing, flatwater boating and float fishing; protect private property rights and livestock operations	- Primarily fishing, flatwater boating and float fishing; ;protect private property rights and livestock operations	- Primarily fishing flatwater boating and float fishing; reduce recreation user conflicts with property owners, agriculture and livestock operations
	Subsection E:	- Promote primarily for fishing use	- Promote primarily for fishing use	- Promote primarily for fishing use	- Promote primarily for fishing use

Notes:
- * See also Area-Wide Actions
- ** BPD = boats per day; BPH = boats per hour; BAOT = boats at one time; PAOT = persons at one time
- 1/ PI = put ins
- 2/ TO = take outs
- 3/ Site capacities here are the same as in Alternative A, even though capacities for the river corridor are unmanageable. However, fewer total visitors could be accommodated over time because the absence of on-water authority would not allow managing on-water use in a manner that would allow spreading out heavy visitation peaks, both by area and over time.
- 4/ Management and Development Proposal + 3, based on current use, use trends and professional judgment, given parameters of management and projected funding trends.
- 5/&6/ Figures for these sites are greater than one-third of the Management and Development Proposal, being based on current use.

Segment #3 - Salida to Vallie Bridge

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
A. OBJECTIVES					
1. Recreation Character Class Prescriptions	On River Corridor:				
	- Physical	Highway Rural	Highway Rural	Highway Rural	Highway Rural
	- Social	Highway Rural	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Managerial	Highway Rural	Roaded Open Country	Roaded Open Country	Roaded Open Country
	At Intensively Developed Sites:				
	- Physical	[none set] (Assumed will	Highway Rural	Highway Rural	Highway Rural
	- Social	[none set] be Highway	Highway Rural	Highway Rural	Roaded Open Country
	- Managerial	[none set] Rural)	Highway Rural	Highway Rural	Roaded Open Country
2. River Corridor	No Subsections	5/15-8/1: 300:150 comm./150 priv., daily (50:50%)	5/15-7/14: 150:75 comm./75 priv., daily (50:50%)	Unmanageable	Unmanageable
		8/2-Labor Day Weekend: 10 boats per hour, weeklong	7/15-5/14: boating only for limited special events and then by permit per event only	Unmanageable	Unmanageable
		Labor Day Weekend-5/15: 50 boats per day, weeklong			
3. Developed Recreation Site Capacities	BPD/BPH/BAOT/PAOT:**				
	- Salida (PI/TO)1/2/	108 12 4 150	54 6 2 75 3/	54 6 2 75 4/	-- -- -- -- 5/
	- Salida East (PI/TO)	96 12 3 100	48 6 2 50	48 6 2 50	32 6 1 50 6/
	- Rincon (PI/TO)	300 38 9 80	150 19 5 40	150 19 5 40	100 13 3 27
4. Management Emphasis	No Subsections	- Manage for wildlife values and a diversity of recreation while improving segment as a high quality trout fishery	- 1st: Manage for primary fishing values - 2nd: Manage for float fishing and boating during spring runoff - 3rd: Provide for special boating events only by permit	- 1st: Manage for primary fishing values - 2nd: Manage for float fishing and boating during spring runoff - 3rd: Provide for special boating events only by permit	- 1st: Manage for primary fishing values - 2nd: Manage for float fishing and boating during spring runoff - 3rd: Provide for special boating events only by permit

Notes:
* See also Area-Wide Actions
** BPD = boats per day; BPH = boats per hour; BAOT = boats at one time; PAOT = persons at one time
1/ PI = put ins
2/ TO = take outs
3/ PAOT figures apply season long, both for primary fishing and boating seasons.
4/ Site capacities here are the same as in Alternative A, even though capacities for the river corridor are unmanageable. However, fewer total visitors could be accommodated over time because the absence of on-water authority wuold not allow managing on-water use in a manner that would allow spreading out heavy visitation peaks, both by area and over time.
5/ No BLM role at this site
6/ Management and Development Proposal ÷ 3, based on current use, use trends and professional judgment, given parameters of management and projected funding trends.

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
A. OBJECTIVES					
1. Recreation Character Class Prescriptions	On River Corridor:				
	- Physical	Highway Rural	Highway Rural	Highway Rural	Highway Rural
	- Social	Highway Rural	Highway Rural	Highway Rural	Highway Rural
	- Managerial	Highway Rural	Highway Rural	Highway Rural	Highway Rural
	At Intensively Developed Sites:				
	- Physical	Developed Urban	Highway Rural	Highway Rural	Highway Rural
	- Social	Developed Urban	Highway Rural	Highway Rural	Highway Rural
	- Managerial	Developed Urban	Highway Rural	Highway Rural	Highway Rural
2. River	Subsection A: - Vallie Bridge to Lone Pine	5/16-8/14: 200:140 comm./60 priv., daily (70:30%)	5/15-7/14: 100:70 comm./30 priv., daily (70:30%)	Unmanageable	Unmanageable
		8/15-5/15: 30 boats per day, 1st come-1st served	7/15-5/14: All boating prohibited	Unmanageable	Unmanageable
	Subsection B: - Lone Pine to Pinnacle Rock	5/16-8/14: 300:210 comm./90 priv., daily (70:30%)	5/15-7/14: 150:105 comm./45 priv., daily (70:30%)	Unmanageable	Unmanageable
		8/15-5/15 : 30:0 comm./30 priv., daily (0:100%) 1st come-1st served	7/15-5/14: 15:0 comm.:15 priv., daily (0:100%)	Unmanageable	Unmanageable
	Subsection C: - Pinnacle Rock to Parkdale	5/16-Labor Day: 600:420 comm./180 priv., daily (70:30%)	5/15-7/14: 300:210 comm./90 priv., daily (70:30%)	Unmanageable	Unmanageable
		Labor Day-5/15: 100:50 comm./50 priv., daily (50:50%)	7/15-5/14: 50:35 comm./15 priv., daily (70:30%)	Unmanageable	Unmanageable
3. Developed Recreation Site Capacities	BPD/BPH/BAOT/PAOT:**				
	- Cotopaxi (PI/TO)1/2/	96 16 8 175	48 8 4 88	48 8 4 88 3/	32 5 3 58 4/
	- Lone Pine (PI/TO)	150 20 9 200	75 10 5 100	75 10 5 100	50 7 3 67
	- Texas Creek (PI/TO)	60 8 4 100	30 4 2 50	30 4 2 50	20 3 1 33
	- Maytag (PI/TO)	60 8 4 100	30 4 2 50	30 4 2 50	20 3 1 33

126

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Pinnacle Rock (PI/TO)	238 28 11 350	119 14 6 175	119 14 6 175	79 9 4 117
	- Salt Lick (PI/TO)	36 12 3 50	150 25 6 42	150 25 6 42	100 17 4 28 5/
	- Five Points (PI/TO)	150 25 10 350	75 13 5 175	75 13 5 175	50 8 3 117
	- Parkdale (PI/TO)	600 81 20 142	300 41 10 71	300 41 10 71	200 27 7 47
4. Management Emphasis	Subsection A:	- Provide primarily for fishing use & secondly for boating use	- Provide primarily for fishing use & secondly for boating use	- Provide primarily for fishing use & secondly for boating use	- Provide primarily for fishing use & secondly for boating use
	Subsection B:	- Provide for all activities equally	- Provide for all activities equally	- Provide for all activities equally	- Provide for all activities equally
	Subsection C:	- Provide for primary boating and secondary fishing use	- Provide for all activities equally; Protect wilderness characteristics of McIntyre Hills WSA	- Provide for all activities equally; Protect wilderness characteristics of McIntyre Hills WSA	- Provide for all activities equally; Protect wilderness characteristics of McIntyre Hills WSA

Notes:

* See also Area-Wide Actions

** BPD = boats per day; BPH = boats per hour; BAOT = boats at one time; PAOT = persons at one time

1/ PI = put ins

2/ TO = take outs

3/ Site capacities here are the same as in Alternative A, even though capacities for the river corridor are unmanageable. However, fewer total visitors could be accommodated over time because the absence of on-water authority would not allow managing on-water use in a manner that would redistribute peak use visitation crowding, both by area and over time.

4/ Management and Development proposal + 3, based on current use, use trends and professional judgment, given parameters of management and projected funding trends.

5/ Figures for this site are greater than one-third the Management and Development Proposal, being based on current use.

127

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Segment #5 - Parkdale to Canon City

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
A. OBJECTIVES					
1. Recreation Character Class Prescriptions	On River Corridor:				
	- Physical	Roaded Open Country	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Social	Roaded Open Country	Roaded Open Country	Roaded Open Country	Roaded Open Country
	- Managerial	Roaded Open Country	Roaded Open Country	Roaded Open Country	Roaded Open Country
	At Intensively Developed Sites-:				
	- Physical	Highway Rural	Highway Rural	Highway Rural	Highway Rural
	- Social	Developed Urban	Highway Rural	Highway Rural	Highway Rural
	- Managerial	Highway Rural	Highway Rural	Highway Rural	Highway Rural
2. River Corridor Carrying Capacities (Boats/Day)	No Subsections	5/1-Labor Day: 300:150 comm./150 priv., daily (50:50%)	5/15-7/14: 150:75 comm./75 priv., daily (50:50%)	Unmanageable	Unmanageable
			7/15/5:14: 75:37 comm./37 priv., daily (50:50%)	Unmanageable	Unmanageable
3. Developed Recreation Site Capacities	BPD/BPH/BAOT/PAOT:**				
	- Parkdale (PI/TO)1/2/	600 81 20 142	400 54 13 95	400 54 13 95 3/	200 27 7 47 4/
	- Canon City (TO)	300 50 12 84	200 34 8 56	200 34 8 56	-- -- -- --
4. Management Emphasis	No Subsections:	- Maintain outstanding kayaking, white-water canoeing, rafting, and fishing, preventing significant user conflicts	- Maintain semi-remote character of the Gorge and manage for outstanding white-water boating	- Maintain semi-remote character of the Gorge and manage for outstanding white-water boating	- Maintain semi-remote character of the Gorge and manage for outstanding white-water boating

Notes:
* See also Area-Wide actions
** BPD = boats per day; BPH = boats per hour; BAOT = boats at one time; PAOT = persons at one time
1/ PI = put ins
2/ TO = take outs
3/ Site capacities here are the same as in Alternative A, even though capacities for the river corridor are unmanageable. However, fewer total visitors could be accommodated over time because the absence of on-water authority would not allow managing on-water use in a manner that would redistribute peak use visitation crowding, both by area and over time.
4/ Management and Development proposal ÷ 3, based on current use, use trends and professional judgment, given parameters of management and projected funding trends.

128

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Segment #6 - Canon City to Pueblo Reservoir

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
A. OBJECTIVES					
1. Recreation Character Class Prescriptions	On River Corridor:				
	- Physical	Highway Rural	Roaded Open Country	Roaded Open Country	Unmanageable 7/
	- Social	Roaded Open Country	Roaded Open Country	Roaded Open Country	
	- Managerial	Roaded Open Country	Roaded Open Country	Roaded Open Country	
	At Intensively Developed Sites:				
	- Physical	[none set] (Assumed will	Roaded Open Country	Roaded Open Country	Unmanageable 7/
	- Social	[none set] be Roaded	Roaded Open Country	Roaded Open Country	
	- Managerial	[none set] Open Country)	Roaded Open Country	Roaded Open Country	
2. River Corridor Carrying Capacities (Boats/Day)	No Subsections	100:50 comm./50 priv. (50:50% season long)	5/15-7/14: 50:25 comm./25 priv., daily (50:50%)	Unmanageable	Unmanageable
			7/15-5/14: 25:12 comm./12 priv., daily (50:50%)	Unmanageable	Unmanageable
3. Developed Recreation Site Capacities	BPD/BPH/BAOT/PAOT:**				
	- Canon City (PI)1/	96 16 4 3/	50 16 4 16 4/	50 16 4 16 6/	-- -- -- -- 7/
	- Florence (PI/TO)2/	72 12 6 125	50 8 2 33 5/	50 8 2 33	-- -- -- --
	- Campsite near Hobson	-- -- -- --	6 NA 6 24	-- -- -- --	-- -- -- --
	- Campsite near Swallows	-- -- -- --	6 NA 6 24	-- -- -- --	-- -- -- --
	- Pueblo Reservoir (PI/TO)	100 25 6 100	50 16 4 16	50 16 4 16	-- -- -- --
4. Management Emphasis	No Subsections	- Provide for multiple-use recreation, a wide variety of opportunities	- Provide for canoeing, floatfishing, rafting and kayaking, birdwatching and camping. Emphasize day use in the upper reaches and overnight use in the lower portions of this segment	- Provide for canoeing, floatfishing, rafting and kayaking, and birdwatching	Unmanageable

Notes:

* See also Area-Wide actions

** BPD = boats per day; BPH = boats per hour; BAOT - boats at one time; PAOT - persons at one time

1/ PI = put ins

2/ TO = take outs

3/ PAOT depends on facilities in park

4/ Measures boaters and float fishers only, assuming an average of 4 people/boat and a 3 hr. launch period at Canon City.

5/ Assumes 3 hrs. launching and 3 hrs. take out at this site with 50% of the upstream boats passing through Florence (PAOT figures include 25 non-boating recreationists and 8 boaters)

6/ Site capacities here are the same, minus campsites, as in Alternative A, even though capacities for the river corridor are unmanageable. However, fewer total visitors could be accommodated over time because the absence of on-water authority would not allow managing on-water use in a manner that would redistribute peak use visitation crowding, both by area and over time.

7/ No BLM role on this segment under Alternative C.

129

B. Implementing Actions

1. Area-Wide

Chapter IV presents Implementing Actions for the Management and Development Proposal as part of the Proposed Action. Some of these are of an area-wide nature; others are specific to the six segments of the river. This narrative presents alternatives to the area-wide implementing actions; the tables which follow present alternatives to the segment-specific implementing actions in table form.

The Management and Development Proposal contains a large number of area-wide implementing actions. Most of thse would also be applicable to all of the alternatives as well as the proposed action. Only those which would be substantially amended, changed, or deleted in the alternatives are addressed here. Necessary additions are also presented.

a. Resource Management

(1) Protection

The proposed development of wildlife watering sources so that wildlife are not forced to cross the highway for water is an action that would be omitted from all alternatives. The scaled-down scope of all alternatives makes it appropriate to exclude this wildlife habitat management action.

(2) Rehabilitation

Under the proposal, staff analysis and recommendations for a Limits of Acceptable Change (LAC) methodology--to close sites when level three changes are reached--are to be coordinated with BLM and presented to the Parks Board. Alternatives A and B envision DPOR and BLM making those determinations jointly and directly without further consultation. None of this would apply under No Action, Alternative C.

b. Visitor Management

The proposal calls for providing different sets of services and different levels of development from that provided by the private sector. This emphasis would be refocused under each of the alternatives. Rather than concentrating on differences between services and developments provided by the private sector and those to be provided for publicly, Alternatives A through C envision providing whatever services and developments are needed to support or facilitate that public recreation use which the plan design specifies. These may or may not differ from what is provided by the private sector, but the important distinction to be made is that the emphasis of each alternative is now placed on desired outputs (i.e., what is to be accomplished) rather than on inputs (i.e., the service and developments needed to make it happen).

The proposal also aims development at a different market segment from that served by the private sector. Since the private sector serves a vital role in helping meet consumer needs of all outdoor recreation visitors, it would appear that the proposal is unduly constraining at this point. Developments for public lands within the planning area may therefore target the same market segment as that served by the private sector under Alternatives A-D; the key difference instead, as noted above, will be on the intents and purposes of developments provided. Again, their key function should not be an end unto themselves but one of supporting or facilitating outdoor recreation use on the public lands.

(1) Visitor Information and Interpretation

The proposal focuses management on wildlife/environmental education at wildlife turnouts. Since many of these areas will also accommodate multiple recreation uses, Alternatives A-C will focus management on meeting the needs of a variety of users, none being more the focus of attention than others. Thus under each alternative, attempts would be made to include educational/interpretive wildlife material on an equal basis with other visitor information. This would also stimulate a greater awareness of the special needs of wildlife among all users of affected sites.

User information about fishing regulations and etiquette, resource use, outdoor ethics, and environmental education and protection is to be provided at river and fisherman access points and turnouts under the proposal. While each alternative envisions making visitor information available to the public, their reduced scope of management requires that this information be selectively distributed only at some of key facility site developments.

The proposed easy access to be provided for park rules and regulations via bulletin boards, information boxes, Chambers of Commerce, tourism information centers, and ranger stations would change under some of the alternatives. Alternatives A and B envision ranger stations, probably more limited in number and function than the proposal, somewhere near the lower ends of segments two and four, probably within local communities. No permanent ranger station would be provided under Alternative C.

The need for entrance signs to the recreation area are not addressed in the proposal, but each of the alternatives envisions that they are needed, particularlly at major public lands ingress and egress points for vehicular traffic in segments two and four, and perhaps at key use areas in segments one and three. Under Alternatives A and B these would emphasize the partnership arrangement between BLM and DPOR that would make these lands available to use, share, and appreciate. Under Alternative C these signs would be limited to entering and leaving public lands near each end of segment four and at the more intensively developed sites along the upper river.

(2) Indirect Visitor Controls and Conflict Resolution

The reduced level of management envisioned for Alternative A likely would not allow for management as intensive as the signing of river to segregate fishing and boating use by different channels. Such on-river management actions would be inappropriate under both Alternatives B and C without the on-river management authority conveyed by H.B. 1253.

(3) Visitor Regulation and Enforcement

The system of identification proposed for private boater identification would be equally applicable under Alternative A as under the Proposed Action. Again, without on-river authority, the action would only appear to be appropriate if needed for management of individual permit requirements that may be adopted under Alternative B and which could be required under Alternative C.

The Proposed Action repeatedly refers to the use of rangers (in the segment-specific actions). It would appear that the use of rangers would be equally applicable in Alternatives A and B. While BLM has not had rangers in the past, under the No Action alternative, Alternative C, employment of a BLM ranger is also envisioned in order to effectively provide appropriate visitor services, compliance, and enforcement.

(4) Permits and Concessions

Under the proposal provision is made for the Colorado Division of Parks and Outdoor Recreation (DPOR) to take over permitting of outfitters along the river from the Bureau of Land Management (BLM). The same would apply to Alternatives A and B. However, in Alternative C the administration of commercial permits would be retained by BLM.

The same situation applies to the Proposed development of system for collection of user fees by DPOR. Such a system would also need to be devised by DPOR under Alternatives A and B but is already in place for Alternative C.

The Proposal requires DPOR to ensure that the fee system is based on equality, equity, need, and social efficiency to the greatest extent possible. The alternatives have been formulated under similar parameters. However, since the proposal limits all commercial outfitting fees to three percent (in 1989) there would be a built-in inequity, since a three percent fee is already being paid by public lands outfitters to ensure the general public a fair return for the commercial use of those lands. Outfitters who use only private lands pay no such fees but often do pay for access across private lands. The three percent fee to be chaged private land outfitters would therefore only be for on-river use. The inequity is that private land outfitters would pay for use of the river itself while public lands outfitters would not.

Both Alternatives A and B would solve this inequity by charging all outfitters an on-river use fee (in whatever amounts the Parks Board decides). For public lands outfitters this fee would be over and above the three percent fee presently being collected for public lands use.

Regarding the matter of individual and/or private boating and fishing use fees, the Proposal provides for collecting day use fees; it envisions that a DPOR Parks Pass would be required at certain intensively developed sites including Railroad Bridge (S#1), Fisherman's Bridge (S#2), Ruby Mountain (S#2), Hecla Junction (S#3), Rincon (S#3), Pinnacle Rock (S#4), Five Points (S#4), and Parkdale (S#4). An additional fee would be required at campgrounds for overnight stay.

The Proposal also provides that a determination of whether or not private boater, fisherman, and other recreation user fees would be required for use of the river or at other areas would be left to the discretion of the State Parks Board. This analysis assumes that under the proposal, everyone pays at all points (re. at DPOR's direction): for all public lands use and an on-river use fee for all commercial and private boaters. Under Alternatives A and B, all shoreline recreation users would also pay use fees but only at the eight sites identified in the preceeding paragraph, on no other public lands. However, on-water boater use fees would continue to be charged for all commercial and private users under Alternative A (as under the proposal), but not under Alternative B where on-water management authority would be lacking.

Under Alternative C, individual use fees could be charged for all non-commercial recreation use to help defray management costs, at the rate of $1.50 per user day as provided for by current policy; but as the No Action Alternative is configured, no such charges would be made.

Besides user fees, the Proposal provides that other sources of State Parks funds would also be available to be used at the recreation area; the same would appear to be true for Alternatives A and B. Under Alternative C, BLM's regular recreation management appropriations would continue to be available for the area in addition to the return of user fees by special appropriation under provisions of the Budget Reconciliation Act of 1987.

(5) Emergency Services

The development of an emergency communication system with BLM, county, and local agencies for wildfire control, search and rescue, and for emergency medical services under the Proposal, though also needed for Alternatives A and B, is already in place under Alternative C.

c. Facility Management

(1) Site Development

The Proposal does not envision portable restrooms as part of the permanent sanitation development. While this would also appear to be applicable to Alternative A, the reduced level and scope of development in Alternatives B and C make this impractical; while some permanent facilities would be envisioned, the seasonal nature of much river use would require the continued use of portable restrooms in several locations.

(2) Maintenance (none affected)

(3) Restoration (none affected)

d. Access and Easement Acquisition (none affected)

e. Administration

Operation of the area is to be as much as possible on a user funded basis under the Proposal. The reduced level of development under Alternatives A and B and the reduced scope of development under Alternative B, would not appear to make this feasible. Furthermore, the nature of this public resource and its operating mandates under the Federal Land Policy and Management Act of 1976 appear to make it inappropriate to provide public recreation opportunities principally on a user-funded basis. Therefore, under all alternatives there would still be a "user pay" emphasis, but no attempt would be made to operate the area completely on user fees as much as possible.

(1) Coordination with Others

The cooperative agreements to be signed with local and county fire crews and DPOR under the Proposal and Alternatives A and B are already in place under Alternative C.

The Proposal also includes provisions to work closely with municipalities to help improve and develop sites that are within a State Park corridor. While that would still appear to be appropriate under Alternatives A and B, no such funding capability nor authority would exist under the No Action alternative.

Cooperative work is included in the Proposal with the State Highway Department to provide information signing, develop scenic turnoffs, provide environmental education and information signing, and begin displaying the Arkansas River State Recreation Area on Highway Department road maps, all of which would still appear to be appropriate for Alternative A and, when limited to the public lands, for Alternative B. Under Alternative C, omit the mapping of the SRA and the development of scenic turnoffs; yet the need for information signing, would still be needed. Missing from the Proposal, and of urgent importance for all alternatives is the need to work cooperatively with the Highway Department in another area: the development of turn lanes and acceleration lanes on U.S. Highway 50.

(2) Staffing

The Proposal includes the employment of seasonal and full-time rangers having law enforcement commissions, to be stationed at major ingress/egress points during weekends and holidays. This would still be provided for under Alternatives A and B by DPOR and by BLM under Alternative C. However, most of BLM's rangers would not have law enforcement authority (see also Visitor Regulation and Enforcement above).

2. Segment-Specific

The following tables compare implementing actions of each alternative with those of the Proposed Action. These compare actions by each of the six river segments included in the plan according to the five basic parameters used in the above narrative; these also form the framework for the Proposed Action in Chapter IV.

Segment #1 - Leadville to Buena Vista

Component	Measures/Location	Proposed Action: Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
B. IMPLEMENTING ACTIONS					
1. Resource Management	a. Protection	- Identify erosion problem areas	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)
	b. Rehabilitation	- Identify points for stream improvement projects - Reestablish fisheries in Subsection A - Control heavy metal pollutants			
2. Visitor Management	a. Visitor Information and Interpretation	- Note subsections on maps - Sign subsections	- Prepare maps showing recreation prescriptions for each subsection, including available types of recreation and the settings in which each occurs	- Prepare maps showing recreation prescriptions for each subsection, including available types of recreation and the settings in which each occurs	- Prepare maps showing recreation prescriptns. for each subsection, including availabale types of recreation and the settings in which each occurs
	b. Indirect Controls and Conflict Resolution	- Redirect users out of inappropriate subsections	- Provide on-the-ground visitor awareness information and education through interpretive and informational signing and an area-wide user's guide	- Provide on-the-ground visitor awareness information & education through interpretive and informational signing and an area-wide user's guide	- Provide on-the-ground visitor awareness information & education through information signing and an area-wide user's guide
	c. Visitor Regulation and Enforcement				
	- Boat Launch Restrictions: Types:Times/Days/Dates Sizes				
	(1) Subsection A	[none]	[none]	Unmanageable	Unmanageable

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Segment #1 - Leadville to Buena Vista

Component	Measures/Location	Proposed Action: Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	(2) Subsection B	Comm.: 8:30-11 am wknds & holidays 9-11 am & 1-2 pm wkdys Up to 6 Boats/launch	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
		Priv.: 8:30-11 am wknds & holidays 9-11 am & 1-2 pm wkdys 6-7 pm Sun-Thurs Priv. hard boats: no restrictions [treat as exception]	7/15-5/14: All boat launches (Comm. & Priv.) from 10:00 am-1:00 pm., all boats off the river by 4:00 pm	Unmanageable	Unmanageable
	(3) Subsection C	Comm.: 9-11 am & 1-2 pm wklng (5/16-8/14) Up to 6 boats/launch Priv.: 9-11 am & 1-2 pm wklng	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm. all boats off the river by 4:00 pm	Unmanageable	Unmanageable
		Up to 40 launches/day (8/15-5/15) Priv. hard boats: no restrictions [treat as exception]	7/15-5/14: All boat launches (Comm. & Priv) from 10:00 am-1:00 pm., all boats off the river by 4:00 pm	Unmanageable	Unmanageable
	- Developed Site Restrictions (to keep use within prescribed site capacities):		Allocate site use at same comm./priv. ratio as is prescribed for entire segment (see objectives)	Allocate site use at average comm./private use ratio for 2 yrs. immed. previous for each site	Allocate site use at average comm./priv. use ratio for 1 yr. immed. previous for each site
	d. Permits and Concessions	[See area-wide]	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (apart from public lands fees), at certain developed sites (through State Parks Pass) and also at certain campgrounds.	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR at certain developed sites (through State Parks Pass) and also at certain campgrounds.	Permits required for comm. users at 3% gross receipts
	e. Emergency Services				Cooperatively provide basic S&R capabilities in conjunction with local governments
3. Facility Management	a. Site Development				
	- Between Spring Creek and Holmes Gulch (on public lands)	Develop fisherman access	Develop fisherman access	Develop fisherman access	

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Segment #1 - Leadville to Buena Vista

Component	Measures/Location	Proposed Action: Management and DevelopmentProposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Below Crystal Lakes (on State Land Board)	#1 priority for fishing access and sanitation in Subsection A	#1 priority to provide for fishing access and and sanitation in Subsection A	#1 priority to provide for fishing access and and sanitation in Subsection A	
	- At Colo. Hwy. 82 (on public lands)		Develop fisherman access and day use facilities	Develop fisherman access and day use facilities	
	- At Clear Creek Reservoir (on public lands)	Fishing access developmt.	Fishing access developmt.	Fishing access developmt.	Fishing access developmt.
	- Above Rapid #4 (on public lands)	#1 priority in Subsection B for boater & fishermen access development and sanitation facilities (toilets & trash pickup)	#1 priority in Subsection B for boater & fisherman access development and toilet facilities	#1 priority in Subsection B for boater and fisherman access development and toilet facilities	Provide parking and toilet facilities for boating access in conjunction with RR Bridge development
	- At Railroad Bridge (on public lands)	Provide 30 cars day use parking; walk-in camping with tent sites, sanitation (toilets and trash pickup) & water. Fisherman access under RR trestle	Provide 15 cars day use parking; walk-in camping with tent sites, sanitation (toilets and trash pickup) & water. Fisherman access under RR trestle	Provide 15 cars day use parking; walk-in camping with tent sites, sanitation (toilets and trash pickup) & water. Fisherman access under RR trestle	Provide parking for 10 cars & sani. facil. for boating access in conjunction with Rapid #4 development. Provide overnight use area as necessary to accommodate this recreation use (i.e., campsites, tables, grates, etc.)
	- Frog Rock (on National Forest)	Sanitation, 30 cars day use parking, boat launch and take out	Toilets, 15 cars day use parking, boat launch and take out	Toilets, 15 cars day use parking, boat launch and take out	
	- Corridor	Hiking and biking trails Develop fisherman access at points ID with DOW, BLM, and other agencies			
	b. Maintenance	[Regular maintenance will be provided for all developed facilities, re. DPOR]	Regular maintenance will be provided for all developed facilities	Regular maintenance will be provided for all developed facilities	Acquire wherewithal to ensure regular maintenance of all facilities to be developed
	c. Restoration				
4. Access and Easement Acquisition	Entire segment	Acquire land at Pine Creek and other areas for fishing the upper stretches	Acquire land at Pine Creek and other areas for fishing the upper stretches	Acquire land at Pine Creek area for fishing the upper stretches	
5. Administration	a. Coordination with Others				
	- BLM	Review mgmt. actions for for consistency with plan prescriptions	Review mgmt. actions for for consistency with plan prescriptions	Review mgmt. actions for for consistency with plan prescriptions	

137

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Segment #1 - Leadville to Buena Vista

Component	Measures/Location	Proposed Action: Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		Modify Frissell site classification scheme with BLM during winter of 1989	Modify Frissell site classification scheme with BLM during winter of 1989	Modify Frissell site classification scheme with BLM during winter of 1989	
	- Advisory Committee/	Coordinate consistency review findings with Advisory Committee, and have it review for compliance with plan, make recommendations to Advisory Committee on proposed changes in mgmt.	Keep Advisory Committee apprised of results of consistency reviews and of adjustments being made in management to keep on track with plan design	Keep BLM task force abreast of progress on plan implementation on a periodic basis	Keep BLM task force abreast of progress on plan implementation on a periodic basis
	- Other	Work with other agencies to make water quality improvements	Work with other agencies to make water quality improvements	Work with other agencies To make water qualilty improvements	
		Work with the EPA on Superfund cleanup of the Arkansas River and its tributaries	Work with the EPA on Superfund cleanup of the Arkansas River and its tributaries. Work with DOW to restablish fisheries in Subsection A	Work with the EPA on Superfund cleanup of the Arkansas River and its tributaries. Work with DOW to restablishy fisheries in Subsection A	Work with the EPA on Superfund cleanup of the Arkansas River and its tributaries. Work with DOW to restablish fisheries in Subsection A
	b. Studies and Monitoring	Conduct annual user counts	Conduct annual user counts	Conduct annual user counts	Conduct annual user counts
		Complete Code-a-site/ modified Frissell inventory annually, beginning in 1989	Complete Code-a-site/ modified Frissell inventory annually, beginning in 1989	Complete Code-a-site/ modified Frissell inventory annually, beginning in 1989	
	c. Staffing	Seek volunteer help in completing stream improvement projects	Seek volunteer help in completing stream improvement projects	Seek volunteer help in completing stream improvement projects	Utilize SCA volunteers to provide on-the-ground signing and visitor awareness, information, and education contacts Equip seasonal staff with basic S&R & First Aid training
	d. Special Equipment and Procurement		Contract with local high schools in developing and placing signing/ interpretation projects working cooperatively	Contract with local high schools in developing and placing signing/ interpretation projects working cooperatively	Contract with local high schools in developing and placing signing/ interpretation projects working cooperatively. Enter into CAs with local govt. to cooperatively provide Emergency Services.

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
B. IMPLEMENTING ACTIONS					
1. Resource Management	a. Protection	- Identify and protect livestock fording and watering places	- Identify and protect livestock fording and watering places		
		- Protect landowner fences, headgates, and wingdams from damage by recreationists	- Protect landowner fences, headgates, and wingdams from damage by recreationists	- Protect landowner fences, headgates, and wingdams from damage by recreationists	- Protect landowner fences, headgates, and wingdams from damage by recreationists
		- Establish Limits of Acceptable Change benchmarks	- Establish Limits of Acceptable Change benchmarks	- Establish limits of Acceptable Change benchmarks	
		- Identify other areas for special protection	- Rotate use of Brown's Canyon WSA lunch stop sites when Level 2 condition class is reached; close sites if necessary to prevent reaching Level 3	- Rotate use of Brown's Canyon WSA lunch stop sites when Level 2 condition class is reached; close sites if necessary to prevent reaching Level 3	- Rotate use of Brown's Canyon WSA lunch stop sites when Level 2 condition class is reached; close sites if necessary to prevent reaching Level 3
			- Install management facilities (e.g., barriers, signs, etc.) at principle use sites, except in the WSA, as needed to maintain resource character (i.e., prevent erosion, vegetation trampling, littering, etc.)	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites, except in the WSA, as needed to maintain resource character (i.e., prevent erosion, vegetation trampling, littering, etc.)	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites, except in the WSA, as needed to maintain resource character (i.e., prevent erosion, vegetation trampling, littering, etc.)
		Subsection C: - Complete boundary fence at Hecla if needed to protect the resource	- Complete boundary fence at Hecla to eliminate livestock/recreation user conflicts, still maintaining stock access for river watering	- Complete boundary fence at Hecla to eliminate livestock/recreation user conflicts, stil maintaining stock access for river watering	
		- Lunch stops in Brown's Canyon WSA will be developed consistent with wilderness statutes and regulations	- Lunch stops in Brown's Canyon WSA will not be developed; emphasize use dispersion and pack out of all waste	- Lunch stops in Brown's Canyon WSA will not be developed; emphasize use dispersion and pack out of all waste	- Lunch stops in Brown's Canyon WSA will not be developed; emphasize use dispersion and pack out of all waste
	b. Rehabilitation	Subsection C: - Implement Hecla Jct. drainage control plan	- Modify drainage/traffic control to solve perennial flood damage	- Modify drainage/traffic control to solve perennial flood damage	- Modify drainage/traffic control to solve perennial flood damage

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Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		- Classify sites needing significant resource repair; close sites when Level 3 is passed, condition class is passed, and take regenerative actions	- Except as provided for below, close and, where necessary, rehabilitate all existing undeveloped day-use sites (see 3a)	- Except as provided for below, close and, where necessary, rehabilitate all existing undeveloped day-use sites (see 3a)	- Except as provided for below, close and, where necessary, rehabilitate all existing undeveloped day-use sites (see 3a)
2. Visitor Management	a. Visitor Information and Interpretation	- Make information about law enforcement procedures available to the public - Post areas warning boaters that crowded conditions may exist - Post access areas with river use ehtics - Post fishermen access points with info. about fishing regulations and etiquette - Include in all brochures a section on river ethics outlining private landowner & recreation user rights - Post boundary areas between State/BLM land and private property - Educate recreationists about proper user conduct through visitor displays at Ranger Station and along the river - Provide informational/instructional signs at all sites - Develop and distribute brochures describing regulations and ways to enhance outdoor ethics & user etiquette	- Post informational signs: o boating and fishing regs. and etiquette for each o permit and user fee requirements o conservation and stewardship ethics o private property rights and recreation user privileges o support facilities, services, and opportunities available o highway rec. area entrance signs depicting BLM-DPOR partnership management - Post all public lands (BLM) and affected State Land Board boundaries along the river - Develop and distribute an informational/interpretive map-brochure commuinicating the same information as on the signs to build appreciation and understanding of: o types of recreation opportunities available & where to find them o the plan design as it concerns carrying capacities and measures to be taken to keep use within established ceilings	- Post informational signs: o fishing regs. and etiquette o permit and user fee requirements o conservation and stewardship ethics o private property rights and recreation user privileges o support facilities, services, and opportunities available o highway rec. area entrance signs depicting BLM-DPOR partnership management - Post all public lands (BLM) and affected State Land Board boundaries along the river - Develop and distribute an informational/interpretive map-brochure communicating the same information as on the signs to build appreciation and understanding of: o types of recreation opportunities available & where to find them o the plan design as it concerns carrying capacities and measures to be taken to keep use within established ceilings o resource and use	- Post informational signs: o fishing regs. and etiquette o permit and user fee requirements o conservation stewardship ethics o private property rights and recreation user privileges - Post all public lands (BLM) boundaries along the river - Develop and distribute an informational/interpretive map-brochure communicating the same information as is on the signs to build appreciation and understanding of: o types of recreation opportunities available & where to find them o the plan design as it concerns carrying capacities and measures to be taken to keep use within established ceilings o resource and use monitoring studies underway to accomplish plan objectives o law enforcement procedures o environmental/conservation stewardship use ethic

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Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		- Provide signing about services, facilities, & opportunities at major sites - Provide information about private property owner's rights and public lands boundaries - Help users understand the system-wide nature & interrelatedness of the resource and local communities - Provide environmental education & informational signing about resource use and special features at scenic pull-offs - Focus on environmental education/protection, outdoor ethics and user etiquette at river access points	o resource and use monitoring studies underway to accomplish plan objectives o law enforcement procedures o The partnership agreement between BLM & DPOR under which the recreation area functions o the system-wide nature of the recreation area o the interrelatedness of the resource and local communities o environmental/conservation stewardship use ethic	monitoring studies underway to accomplish plan objectives o law enforcement procedures o The partnership agreement between BLM & DPOR under which the recreation area functions o environmental/conservation stewardship use ethic	
		Subsection A: - Develop boater education and environmental interpretation for the Buena Vista site	- Develop boater education and environmental interpretation for the Buena Vista site		
		Subsection C: - Develop educational/interpretive signing program at Hecla	(see above)	(see above)	(see above)
		- Post educational signs stipulating that use is restricted - Initiate interpretive Ranger program on unique characteristics of Brown's Canyon WSA	- Post interpretive displays explaining mgmt. objectives & accompanying carrying capacities on river corridor with possibility of future use allocations or restrictions		

Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	b. Indirect Controls and Conflict Resolution	- Provide for quiet zones in residential areas along the river	- Provide for quiet zones in residential areas along the river		
		- Redirect users not in proper areas	- Provide on-the-ground visitor awareness information & education through interpretive and informational signing and an area-wide user's guide	- Provide on-the-ground visitor awareness information & education through interpretive and informational signing and an area-wide user's guide	- Provide on-the-ground visitor awareness information & education through information signing and an area-wide user's guide
		Subsection C: - Segregate comm. & priv. boater ingress & egress points at Hecla	- Segregate comm. & priv. boater ingress & egress points at Hecla	- Segregate comm. & priv. boater ingress & egress points at Hecla	- Segregate use areas at at Hecla put-in/take-out by types of launch/takekout vehicles
		- Improve traffic flow at Hecla Junction by signing and Ranger assistance on heavy use days (wknds & holidays)	- Improve traffic flow at Hecla Junction by signing and Ranger assistance on heavy use days (wknds & holidays)	- Improve traffic flow at Hecla Junction by signing and Ranger assistance on heavy use days (wknds & holidays)	- Improve traffic flow at Hecla Junction by signing and ranger assistance on heavy days (wknds & holidays)
		- Limit overnight commercial and private use to designated sites and segregate these	- Restrict both overnight and day use, commercial and private, to designated sites (see below)	- Restrict both overnight and day use, commercial and private, to designated sites (see below)	- Restrict both overnight and day use, commercial and private, to designated sites (see below)
	c. Visitor Regulation and Enforcement				
	- Boat Launch Restrictions: Types: Times/Days/Dates Sizes				
	(1) Subsections A-D	All boats: 8:30-11:30 am & 12:30-3:30 pm; after 3:30 pm, up to 15 boats per hour for a 15 min window ea. hour	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm; all boats off the river by 4:00 pm	Unmanageable	Unmanageable
			7/15-5/14: All boat launches (Comm. & Priv.) from 10:00 am-1:00 pm; all boats off the river by 4:00 pm	Unmanageable	Unmanageable

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Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	(2) Subsection E	All boats: 8:30-11:30 am & 12:30-3:30 pm	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm; all boats off the river by 4:00 pm exepting exclusive float fishing trips	Unmanageable	Unmanageable
			7/15-5/14: All boat launches Comm. & Priv.) from 10:00 am-1:00 pm; all boats off the river by 4:00 pm excepting exclusive float fishing trips	Unmanageable	Unmanageable
	- Developed Site Restrictions (to keep use within prescribed site cppys.):	- Restrict use at developed sites based on established capacities	Allocate site use at same comm./priv. ratio as is prescribed for entire segment (see objectives)	Allocate site use at average comm./private use ratio for 2 yrs. immed. previous for each site	Allocate site use at average comm./priv. use ratio for 1 yr. immed. previous for each site
	- Others:	- Drop allocations any time after implementation when use drops below capacities	- Once allocations have been implemented, if use drops below capacity, ration to others within the affected sector (i.e., comm. or private) at the same ratio prescribed for the river corridor. If use still falls below capacity, then amend plan to change comm./priv. allotment percentages in order to utilize all available capacity. Drop allocations only if after completing these steps, capacity still exceeds demand.	- Once allocations have been implemented, if use drops below capacity, ration to others within the affected sector (i.e., comm. or private) at the ratio at which comm. & priv. use is then occurring. Ration use to commercials at their preceeding 2-yr use average/to privates 1st come-1st served. Requires no plan amendment. Drop allocations only if after completing these steps, capacity still exceeds demand.	- Once allocations have been implemented, if use drops below capacity, ration to others within the affected sector (i.e., comm. or private) at the ratio at which comm. & priv. use is then occurring. Ration use to commercials at their preceeding 1-yr use average/to privates 1st come-1st served. Requires no plan amendment. Drop allocations only if after completing these steps, capacity still exceeds demand.
		- Enforce existing statutes, with penalties, to protect private property rights	- Enforce existing statutes, with penalties, to protect private property rights	- Enforce existing statutes, with penalties, to protect private property rights	
		- Enforce regs. to halt animal harassment/ implement special regs. to address firearms use	Enforce regs. to prevent animal harassment/ implement special regs. to address firearms use	- Enforce regs. to prevent animal harassment/ implement special regs. to address firearms use	

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by the College of Education and Human Services, Arizona State University in cooperation with the College of Forestry and Natural Resources, Colorado State University and the BLM (Knopf and Virden, 1987). A third user study was completed as part of the 1987 effort by the Colorado State University which focused solely on shoreline recreation by non-boater users on Segment 4 (Haas and McCombe, 1987). The last study was initiated independently by DPOR in 1987 and included all shoreline and on-water recreation users on Segments 1 through 5 (King, 1987).

a. Recreation Resources

1) Characteristics

Refer to Section E, Recreational Characteristics (Chapter I).

2) User Preferences

Visitors were asked if they felt the river environment was being damaged by recreation use. Results show that nearly twice as many users felt such damage was occurring in 1987 versus 1981.

	Segment 2		Segment 4	
	1981	1987	1981	1987
Yes	14.8%	26.7%	14.1%	27.5%
No	85.2	73.3	85.9	72.5

When asked what kinds of damage the felt was occurring, those interviewed indicated that they observed the following kinds most. The most dramatic increases concern soil damage on Segment 2.

	Segment 2		Segment 4	
	1981	1987	1981	1987
Litter/Trash/Garbage	32.8%	40.5%	23.1%	35.0%
Soil Damages/Erosion	8.2	20.0	5.8	5.5
Vegetation Destruction	4.9	--	7.7	15.0
Overuse/People Pressures	--	14.0	7.7	10.8
General Deterioration	3.3	5.6	7.7	10.8
Human Waste	6.6	8.5	5.8	10.8

b. Visitor Use

1) Characteristics

a) Types and Volumes

Please refer to Section C of Chapter I for an overview of Arkansas River recreational boating use.

The most recent fishing use estimates from the Colorado Division of Wildlife (DOW) show a total of 23,330 fishermen user days per year for the entire river planning corridor. A user day is defined as one person recreating for all or part of a day. This averages to four hours for fishermen. The most intensive fishing use occurs on Segments 3 and 4. The following table provides a breakdown of fishing use by segment.

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River Segment/ Subsection	Fishermen User Days/ Mile	Accessible # Miles	User Days/ Year
1-A	400	3.0	1,200
1-B	400	5.5	2,200
1-C	440	2	880
Sub-total:			4,280
2	650	6	3,900
3	740	7	5,180
4-A	700	2.5	1,750
4-B	575	6.8	3,910
4-C	450	7.8	3,510
Sub-total:			9,170
5	100	4	400
6	100	4	400
TOTAL:			23,330

In addition to the 132,200 annual boating visits referenced in Chapter I and the 23,330 fishing user days noted above, the BLM user data indicates that an additional 70,000 visits occur on public lands within the planning area. These total an estimated 132,000 visitor hours, distributed as follows:

Motorized Use	50,000 hours	50,000 visits
Camping	60,000 hours	7,500 visits
Other site use (e.g., picnicking) viewing, other water, etc.)	22,000 hours	12,500 visits

The most recent visitor data reflects commercial boating use of developed and semi-developed BLM recreation sites and other commercial use sites (e.g., lunch stops), for the 1985 use season. This visitor use data is shown, by site, on the following table:

Site Name	Annual Visits
Segment 1:	
- East Clear Creek	474
Segment 2:	
- Fisherman's Bridge	8,144
- Ruby Mountain (closed to comm. boating)	0
- Cottonwood Creek	5,526
- Pinball Rapid	2,661
- Zoom Flume	3,868
- Near Widowmaker Rapid	1,765
- Hecla Junction	50,691
Segment 3:	
- Salida East	3,353
- Rincon	895

Segment 4:

-	Lone Pine	3,443
-	Gosh Awful Rapid	475
-	Maytag Rapid	3,070
-	Pinnacle Rock	8,981
-	Salt Lick	15,522
-	Five Points (closed to comm. boating)	0
-	Floodplain	1,129
-	Spikebuck	2,529
-	Parkdale	29,247

Presently campground use is under capacity for most of the year.

There are 41 private campgrounds in the planning area, with an average of 62 units each. Using the campground industry's average camper family size of 2.8 people per unit, the combined capacity of these private campgrounds is 7,118 persons at one time (PAOT). If the USDA Forest Service's average campsite capacity figure of 5 people per unit is used instead, the PAOT total increases to 12,710. The private campground industry reports that these facilities average 40 percent occupancy on weekdays and 80 percent on weekends. Based on current use, an average family size of 2.8 people leaves an unused area daily capacity of 4,270 on weekdays and 1,422 on weekend days. At this rate an additional 372,868 people could be accommodated by private campgrounds during the 110-day summer use season. If the Forest Service's full capacity figure of five people per unit were used instead, unused PAOT capacity would be 7,625 people on weekdays and 2,540 people on weekend days, which means that an additional 665,860 people could be accommodated.

Use of developed public campgrounds is limited principally to those provided by the USDA Forest Service. The 32 public campgrounds occurring in or immediately adjacent to the Arkansas River Valley have a combined overnight capacity of 4,255 PAOT. These campgrounds occur in Lake, Chaffee, Park, and Fremont Counties. Total 1987 use was 231,820 visits or 22.5 percent of site design capacity. The Forest Service reports that reaching 40-50 percent of total capacity means that a site is usually full during the peak summer use season. Allowing for an additional 27.5 percent of growth (to 50 percent of capacity), there is still an unused season capacity of 282,570 overnight camping stays on the 32 Forest Service campgrounds. Translated to a daily figure, there is still 1,171 PAOT of unused daily capacity at these sites to reach 50 percent of total design capacity, assuming a daily occupancy equal to the 22.5 percent seasonal average.

Hecla Junction is the only BLM developed camping facility along the river with a capacity of 50 PAOT (persons at one time). None of the cities and towns along the river are known to provide public camping facilities. The combined capacity of all public campgrounds for the planning area is 4305 PAOT.

Current use at the BLM campground at Hecla Junction is estimated at only 22 percent of its 50 PAOT capacity, leaving an average unused capacity of 39 PAOT per day or 7,020 people for the season.

In addition to the above figures, there is an undetermined amount of undeveloped site or dispersed camping that occurs in the area.

b) The User

The Arkansas River is a national recreation resource. The ratio of resident to non-resident use has remained virtually unchanged since 1981. For example on Segment 2, 61.4 perccent of the 1987 users were Colorado residents, compared to 61.9 percent in 1981. On Segment 4, 57.8 percent of 1987 boaters were Colorado residents compared to 59.7 percent in 1981. See Appendix G for a more complete breakdown of user origins.

Study data, (Knopf and Lime, 1981) also portrays a user's river running experience profile, both on the Arkansas and on other rivers. The trend since 1981 indicates that users are becoming more experienced, both on the Arkansas and on other rivers. For example, on the Browns Canyon Segment 2, nearly three-fourths of all river runners were first-time users in 1981. However by 1987 only about half had never previously run the river. On Segment 4 the proportion of first-time users decreased from over two-thirds in 1981 to one-half in 1987. The same is true with numbers of boaters who have made more than ten float trips on other rivers: 20 percent for Segment 2 and 25 percent for Segment 4 in 1987. This is up from 2.5 percent on Segment 2 and 2.8 percent on Segment 4 in 1981 (see Appendix G).

Results of the 1987 Colorado State University study indicated that most shoreline recreationists were either first time (35.7%) or had made more than four such recreation trips on the Arkansas (42.8%).

c) The River Trip

In terms of time spent on the river itself, nearly all boating use is day use in character. However, a number of visitors spend at least one night somewhere in the valley. From 44 percent (on Segment 2) to 37 percent (on Segment 4) of boaters spent no nights in the area. The CSU shoreline study indicates that about one-half of the principally non-boating users along Segment 4 spent no nights in the valley (see Appendix G).

d) Other Visitors Seen

During the period from 1981 to 1987, some of the most remarkable changes occurring concern the numbers of other boaters users have reported seeing. For example, in 1981 on Segment 2, approximately equal numbers of visitors reported seeing from 11-25 and 26-75 other people at their put-ins and along the river; about two-thirds of all users saw these numbers of people. In 1987, approximately one-third of all Segment 2 users saw in excess of 75 people at these locations as well as at their take-out. The same situation has occurred on Segment 4. However, there is still a greater number of smaller groups in this Segment, and most people reported seeing fewer large groups here than they did on Segment 2 (see Appendix G).

2) User Preferences

a) Reasons for Visiting the River

Reasons why people come to recreate on the Arkansas River may be portrayed at least three different ways. These include the kinds of activities they want to engage in, recreational characteristics of the settings in which they pursue these activities, and the kinds of experiences they seek.

In terms of activities, there is almost complete agreement among boaters that most came for two principal reasons: to run the rapids and to view the scenery. From one-third to one-half of the boaters came to do some camping.

On the other hand, shoreline users in Segment 4 were principally interested in sightseeing. About half came for picnicking, and the remainder were divided equally between desires for fishing and camping.

Activities boaters want to participate in are depicted in the following table:

	Segment 2			Segment 4		
	Disagree	Neutral	Agree	Disagree	Neutral	Agree
Run Rapids	0%	1.5%	96.4%	2.5%	0%	97.5%
View the Scenery	.8	7.8	91.5	1.3	10.4	88.3
Do some Camping	31.8	31.8	36.4	22.4	31.6	46.0
Do some Hiking	52.0	27.9	20.2	46.8	29.9	23.4
Do some Fishing	66.9	27.7	5.3	65.0	31.2	3.9

The DPOR studied users both on the river as well as those engaged in shoreline recreation and asked respondents which activities they pursued during their present visit. These are the results for Segments 1 through 5 combined.

Activity	Percent Participating	Percent Not Participating
River Running	84.7%	15.3&
Fishing	16.9%	83.1%
Camping	36.9	63.1
Sightseeing/ Driving for Fun	42.5	57.2
Picnicking	17.1	82.9

Activities shoreline users want to participate in:

	Segment 4 Agree
Sightseeing	70.6%
Picnicking	54.1
Fishing	37.6
Camping	37.6
Photography	28.2
Other	22.4

Users feelings concerning the recreational character of the land, visitors' use of it, and how it is managed is depicted on three graphics in Appendix G. Refer also to Figure 1-2 in Chapter I for a description of the six recreation character classes depicted. While there are no areas remaining along the river corridor which are as remote and undeveloped as the Back Country and Walk-In classes, boaters still expressed greatest preference for these kinds of areas. For all other classes except Developed

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Urban, boaters either felt neutral or expressed only a slight dislike. Moderate dislike was generally felt among boaters for the physical and social characteristics of Developed Urban areas. However, boaters favored the more intensive management provided in Developed Urban areas (see Appendix G).

Shoreline users, on the other hand, expressed their strongest preference for Roaded Open Country and Highway Rural areas. For all other types of areas they generally felt neutral; however a noticeable dislike was expressed for the numbers of people present in the Developed Urban class (see Appendix G).

Some substantial changes in Arkansas River boater's experience preferences may be observed by comparing changes in recreation motives in 1981 to 1987. On Segment 2, the desire to develop skills and experience peace and calm appeared to be unimportant in 1981 but were significant motivators in 1987. Likewise, but this time on both Segments 2 and 4, the desire for physical exercise shows up in 1987 but was not present in 1981. Two additional items became important motivators between 1981 and 1987. On Segment 2 people were indicating their desire to escape crowds, while on Segment 4 there was a substantial desire to meet new people. Neither of the motives were present in 1981. The following list includes only those experiences desired by more than 50 percent of boaters studied.

	Segment 2		Segment 4	
	Comm. Out-fitted	Priv. Out-fitted	Comm. Out-fitted	Priv. Out-fitted
Viewing Scenery	88.0%	87.8%	89.7%	78.9%
Thrills & Action	71.5	80.9	76.9	85.5
Developing Skills	--	72.0	74.4	73.7
Being with Friends	58.3	66.7	59.0	65.8
Peace and Calm	--	61.4	71.8	55.3
Learning New Things	61.2	58.8	61.5	52.6
Physical Exercise	--	53.0	--	64.9
Escaping Crowds	--	58.8	--	--
Meeting New People	--	--	--	54.0

Note from the table that boaters on Segment 2 are much more concerned about crowds and far less interested in meeting other people than are those on Segment 4.

The boater study also dealt with the subjective issue of crowding. How crowded did users feel? The following table compares visitor responses with Segment 2 and Segment 4, both between commercial and private boaters and in terms of how preferences have changed from 1981 to 1987 ('81 figures are in parentheses; '87 figures are not).

Segment 2			Segment 4		
Would Like to Have Seen More People	Neither Too Many Nor Too Few People	Too Many People *	Would Like to Have Seen More People	Neither Too Many Nor Too Few People	Too Many People *

At Put-Ins/	Comm.	6.2%	52.1%	41.7% 1/	9.9%	65.6%	24.6%
		(3.3)	(75.8)	(20.8)	(8.0)	(78.5)	(13.5)
	Priv.	0	54.3	45.7	12.6	50.0	37.3
		(4.8)	(66.1)	(29.0)	(6.9)	(86.2)	(6.9)
On River/	Comm.	4.2	43.2	52.6 2/	13.3	60.0	26.7
		(5.0)	(65.7)	(29.2)	(13.3)	(65.4)	(21.3)
	Priv.	2.9	37.1	60.0 3/	5.9	41.2	53.0 6/
		(1.6)	(36.1)	(62.3)	(6.9)	(69.0)	(24.1)
At Take-Outs/	Comm.	5.2	41.7	53.2 4/	6.7	73.3	20.0
		(3.8)	(72.5)	(23.6)	(6.9)	(67.4)	(25.7)
	Priv.	0	48.6	51.4 5/	5.9	52.9	41.2
		(3.2)	(36.1)	(60.6)	(3.4)	(72.4)	(24.1)
While Camping On River	Comm.	17.5	65.0	17.5	7.2	78.6	14.3
		(11.2)	(66.7)	(22.2)	(4.5)	(68.2)	(27.2)
	Priv.	4.3	56.5	39.1	7.7	53.8	38.5
		(0)	(73.9)	(26.0)	(0)	(75.0)	(25.0)

* Note: Of those feeling there were too many people, the following notes what percentage was expressed as "far too many people"--the remainder was expressed as "a few too many people".

1/ 16.7% comm.--at put-ins
2/ 16.8% comm.--on river
3/ 31.4% priv.--on river
4/ 18.8% comm.--at take-outs
5/ 14.3% priv.--at take-outs
6/ 11.8% priv.--on rive

Several implications can be derived from these data. In 1987, more than half of all boaters studied on Segment 2 felt crowded while on the river and at take-outs, both commercial and private. Nearly half of both commercials and privates felt the same way at put-ins in Segment 2. While this represents no significant change for private boaters, this feeling of crowdedness among commercial boaters was not there in 1981.

In addition, during 1987 more than one-third of all boaters studied on Segment 2 felt crowded at all four locations at put-ins, on the river, at take-outs, and while camping. One exception to this overall trend involved commercial campers with only one out of six feeling crowded.

Perceptions of crowding are much more varied among users on Segment #4. While more than one-third of all 1987 private boaters felt crowded at all four locations, none of the commercials felt that crowded. Also, over half of all private boaters felt crowded while on the river. As in Segment 2, this still represents a significant change from 1981. In 1981, both commercial and private boaters indicated about the same degree of concern about crowding with only about one-fourth of them expressing concern about crowding, while on the river, at take-outs, and while camping.

Similar concerns about crowding are observed when comparing first time with repeat boaters. Approximately half of all Segment 2 repeat users felt crowded at put-ins, on the river, and at take-outs. Approximately half of the first time users on this segment said there were too many people on the river and at take-outs.

On Segment 4, 25 percent or less of all first time boaters felt crowded. However, about one-third of all private boaters studied felt there were too many people at put-ins and take-outs, while nearly half of them felt crowded while on the river.

c) General Visitor Satisfaction

Notwithstanding growing concerns about the numbers of visitors on the river, most boaters (two-thirds) still feel that river managers are doing a good job. When asked if they felt a good job was being done by managers, boaters responded this way:

	Segment 2	Segment 4
Strongly agree	22.5%	22.8%
Agree	44.2	44.3
Feel Neutral	23.3	24.1
Disagree	9.3	8.9
Strongly disagree	0.8	0

The same situation applies to trip satisfaction. On both segments, nearly 75 percent of all visitors were satisfied with their trip, as shown in this table:

	Segment 2	Segment 4
Strongly agree	28.6%	34.1%
Agree	39.5	37.8
Feel neutral	14.8	13.6
Disagree	14.8	13.1
Strongly disagree	2.2	1.5

c. Management

1) Characteristics

a) Recreation Resource Management

In addition to the practices outlined in Chapter I, BLM's present management involves a number of resource protection projects on public lands along the Arkansas.

At some of the more heavily used sites the BLM has undertaken resource stabilization work to curtail soil erosion. For example, intensive foot use at the Five Points recreation site threatened some of the large Cottonwood shade trees, exposing their roots. Replacement soil was hauled in and stabilizing structures were added. Riparian vegetation in boggy areas at Fisherman's Bridge was protected by installing a French drain. At Hecla Junction, a series of gabions were installed along the drainage to help protect the boat landing area from major damage during flash floods.

b) Visitor Services

Each season, from 3-5 BLM summer seasonal personnel and volunteers are assigned to work on public lands along the river. These personnel provide visitor information and personal contact, and also perform maintenance functions.

Information signs are being maintained at principle developed or semi-developed sites along the river including Ruby Mountain, Lone Pine, Maytag, and Salt Lick. In addition, visitor information boards and other information signs have been installed at Fisherman's Bridge, Hecla Junction, Rincon, Pinnacle Rock, Five Points, Floodplain, Spikebuck, and Parkdale recreation sites. Visitor traffic direction signs are also installed at the Fisherman's Bridge, Hecla Junction, Pinnacle Rock, Five Points, and at Parkdale. Public lands boundary signs are placed both at Fisherman's Bridge and Ruby Mountain.

The BLM has developed a small-scale river map of the area which is available from the Royal Gorge Resource Area office and through a self dispenser at Fisherman's Bridge.

DPOR also has available a general purpose river running brochure dealing with visitor safety aspects of the sport.

c) Facilities Management

Developed recreation facilities provided by BLM along the river include four camping/picnicking units at Hecla Junction and eleven picnicking units at Five Points. A potable water system and trash pickup are provided at Five Points, and picnic tables and grills are provided at both sites. Five Points also has two permanent toilets.

When BLM began issuing Special Recreation Permits (SRPs) in 1979, most of the fee revenue was returned for on-the-ground management. This practice ended when special language was included in the 1981 appropriations bill which retained all fee revenue in the Land and Water Conservation Fund Act. Revenue collected from commercial user fees during 1979 and 1980 was used for facility development particularly at Fishermans Bridge, Hecla Junction, and Parkdale. Boat launching/take-out ramps at these locations were in part constructed with these funds. Since then, BLM has also constructed a boat ramp and beach area at Pinnacle Rock and has installed a drain in the parking area. The parking area at the Salt Lick recreation site has been enlarged approximately 50 percent, and a boat launching/landing beach has been cleared. A heavily-used portage trail has also been built at Three Rocks Rapid. Vaults for seasonal portable toilets were also installed at seven locations including Fisherman's Bridge, Ruby Mountain, Hecla Junction, and Pinnacle Rock. Each of these areas has two toilets. An additional toilet and vault is located at Rincon, Spikebuck, and Floodplain recreation sites.

2) User Preferences

a) Problems Encountered

When visitors were asked what problems they encountered, 18 different problems were noted by more than one-third of the boaters on

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either Segment 2 or Segment 4 during the 1987 season. Comparative data are presented for both the 1981 and 1987 seasons in Appendix G.

On both segments, the inadequacy of the existing toilet facilities at put-ins and take-outs, the few toilet facilities between put-ins and take-outs, and the large numbers of people on the river were the three problems most often observed as being serious. Over half of all users surveyed expressed those concerns. While the seriousness of several of these issues remained relatively unchanged from 1981 to 1987, some changes were rather dramatic.

For example, the proportion of users studied who felt the number of people on the river was a serious to very serious problem doubled on Segment 2 and increased nearly six-fold on Segment 4. Though the problem does not appear to concern a majority of boaters, the inconsiderateness of other people and people shouting and yelling appeared to be a much greater concern in 1987 than in 1981 on Segment 2. Furthermore, more than three times as many Segment 2 boaters expressed concern about the number of commercial establishments along the river in 1987 than did so in 1981 (see Appendix G).

The DPOR study combined responses for all recreationists studied without differentiating by boaters, fishermen, or others. It asked all users studied to what degree they felt nine different issues were problems. The following issues were perceived as problems by more than 50 percent of those contacted: litter (on Segments 1 and 3), inadequate toilets (on Segments 1 and 3), and inadequate signs (Segment 1) (See Appendix G.)

The only problem concerning 50 percent or more of the Segment 4 shoreline users was litter. Additionally, from one-third to one-half of all Segment 4 shoreline recreationists indicated that the inadequate number of toilets and too many people on the river were problems during their trip.

b. Possible Management Actions

When boaters were asked how they felt about restricting the number of people using the river at any one time substantially more of them supported the idea rather than opposing it. On Segment 2, half of all boaters supported the idea, as shown in the following table:

	Segment 2	Segment 4
Oppose	26.7%	30.4%
Feel Neutral	22.9	26.6
Support	50.4	43.0

When shoreline users were studied, only 14.8 percent indicated that they would like more controls to keep conflicts from occurring.

More specifically, boaters were asked what kinds of management actions they would support or oppose. Responses were entered on a five-point scale with "1" representing "strongly oppose", "3" representing "neutral", and "5" representing "strongly support". Each item studied was then grouped under three headings. "Actions Supported" included those items with a population mean greater than 3.5. "Neutral Actions" included those from 2.5 to 3.5, and "Actions Opposed" included those with a mean score of less than 2.5 (see Appendix G).

By disaggregating these responses by commercial and privately outfitted individuals, some useful differences in support for certain selected management actions may be seen. Most noticeably, commercial boaters are far more supportive of the last four items on the list, both for Segments 2 and 4 (see Appendix G).

4. Soils

The soils in the affected area represent a complex combination of geologic, topographic, climatic, and vegetative features. To simplify the description of soils along the river, two or more types of soil are grouped into mapping units called soil associations. A map showing soil associations is useful to people who want a general idea of the soils in the area. This data is not detailed enough for specific site planning, but it is suitable for planning on an area-wide basis.

There are 8 different soil associations along the river from Leadville to Pueblo Reservoir. A short description of each follows:

a. Association 68

Pierian-Poncha association -- Nearly level to steep, deep, well drained soils.

This association is on nearly level to steep river terraces from Leadville to Clear Creek Reservoir. The soils formed in glacial outwash material and alluvium. They are very permeable and are only slightly susceptible to erosion. They usually support good stands of cool-season grasses, and are used mainly for livestock grazing and wildlife.

b. Association 63

Troutville - Leadville Association -- Gently sloping to steep, deep, gravelly soils.

This soil association is on mountain slopes, river terraces, and alluvial fans between Clear Creek Reservoir and Pine Creek. The soils formed in glacial outwash and glacial till. They are deep, well drained, moderately permeable, and moderately susceptible to erosion.

The vegetation is mainly lodgepole pine, with some spruce, alder, and willow growing along the river banks. The primary use is by wildlife and recreationists.

c. Association 66

Dominson - San Isabel Association -- Nearly level to steep, deep, somewhat excessively drained soils.

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The Dominson soils are on the tops of high terraces and their strongly sloping side slopes, while the San Isabel soils are on the lower terraces adjacent to the river. This association is on the west side of the river from Pine Creek to Buena Vista, on both sides of the river from Buena Vista to Brown's Canyon and on both sides of the river from the mouth of Brown's Canyon to Salida.

The soils are derived from gravelly glacial outwash materials. They are generally deep and very permeable. The Dominson soils are moderately susceptible to erosion, while the San Isabel soils are only slightly so.

The dominant vegetation consists of bunch grasses and forbs. The primary use is for livestock grazing. Some of the Dominson is irrigated for hay.

d. Association 64

Rockland - Rock Outcrop Association -- Rock outcrops and steep to very steep very shallow soils.

This association is on steep and very steep mountain slopes east of the Arkansas River from Pine Creek to Buena Vista, on both sides of the river through Brown's Canyon, from Salida East recreation site to Howard, from Cottonwood Rapid to Fernleaf Gulch, from Texas Creek to the mouth of the Arkansas Canyon, and through the length of the Royal Gorge. The association is mainly outcrops of igneous rocks, intermingled with very shallow soils that formed in place in material that weathered from the rocks.

The vegetation is sparse, consisting mainly of pinon pine, blue grama grass, a few bunch grasses, and low growing shrubs. Wildlife and recreationists are the main users of this soil association.

e. Association 70

Wet Alluvial Land - Gas Creek Association -- Nearly level and gently sloping, deep, poorly drained soils.

This association is on low terraces and bottomlands along the river from Buena Vista to about a mile above Fisherman's Bridge. The soils are poorly drained and formed in gravelly alluvium. Wet alluvial land is in the river bottom. It consists of gravel and sand bars, and wet, stratified, medium to coarse textured soil materials that are subject to overflow. Gas Creek soils are on the slightly higher terraces. They have a surface layer of gravelly sandy loam that is over gravelly sand, cobbles, and gravel.

The Gas Creek soils are very permeable, and the susceptibility to erosion is slight. Wet alluvial land soils are not rated for permeability or erosion susceptibility.

Wet alluvial land provides food and shelter for livestock and wildlife. Gas Creek soils are used mainly for irrigated pasture and hay.

f. Association 116

Haploboralls - Agriborolls

This association is along the river from Howard to below Coaldale, and from Fernleaf Gulch to Texas Creek. The soils are fertile, fairly deep, and well drained. Native vegetation is grass, but these soils are generally cultivated where slope is not limiting and irrigation water is available. The permeability is moderate and the susceptibility to erosion is moderate.

Association 116 is used mainly for livestock grazing or irrigated hayland. In the Howard area, much of this land has been subdivided and is now occupied by houses.

g. Association 7

Las-Glenberg-Apishapa Association -- This association is found on the floodplains of the Arkansas River below Canon City.

The Las series consists of nearly level, limey, moderately saline soils that formed in stratified alluvium. These soils make up about 35 percent of the association and occur on bottomland and low terraces.

Las soils are generally poorly drained. Internal drainage is moderate, and permeability is slow to moderate. The water table is at a depth of 30 to 40 inches. Natural fertility is moderate to high. There is no significant hazard of erosion. The response to management is good. Most of these soils are cultivated.

The Glenburg series makes up about 30 percent of the association. These soils are nearly level to gently sloping, limey, and deep to moderately deep sandy loams over sand and gravel.

Glenburg soils are easy to work and are naturally well drained. Internal drainage is medium to rapid, permeability is moderately rapid, and water holding capacity is moderate. Runoff is slow. Natural fertility is moderate. Erosion is a hazard in sloping areas.

These soils are well suited to crops, especially vegetable crops. Natural vegetation is typically grass, tamarisk, cottonwood, and willow.

The Apishapa series consists of nearly level, deep, limey, soils that formed in fine-textured, saline alluvium derived from shale. They are found on bottomlands and low-lying terraces.

Apishapa soils are generally poorly drained. They have slow permeability and slow internal drainage. Generally the water table is within a depth of 40 inches. Natural fertility is high if excess water is removed. There is no significant hazard of erosion. The response to management is poor. Most of these soils are cultivated. The Apishapa series make up about 20 percent of the association.

h. Association 46

Penrose-Minnequa Association

This association is along the river below Florence. The Penrose soils are on the uplands, while the Minnequa soils occupy the river bottom. About 25 percent of this association is rock outcrops, forming cliffs along the river's edge.

Penrose soils are shallow, well drained, and contain fragments of thin, flat limestone. Permeability is moderately rapid and the erosion susceptibility is severe.

Minnequa soils are moderately permeable, and the hazard of erosion is slight.

These soils are used for livestock grazing, and by wildlife and recreationists.

In summary, most of the soils in the area present no particular management problems. Only the Penrose soils are classed as being highly susceptible to erosion. However, any soil will erode if a good vegetative cover is not maintained.

More detailed descriptions of these soils can be found in various soil survey reports kept in the BLM Canon City District Office.

5. Vegetation (other than T&E Species)

The variable climate, elevation, and topography of the affected environment are conducive to extremely varied vegetation. The vegetation can be placed into three major groups - grassland, shrubland, and forestland. Sub types exist within these groups. Other important types found within this affected environment are riparian zones and cropland.

The current condition of the vegetation types near the heavily used recreation sites is poor. Unrestricted foot traffic near put-ins, take-outs, lunch stops, as in Brown's Canyon, recreation sites, and highway pull-offs from Texas Creek to Parkdale has, over the past ten years, resulted in a proliferation of paths and concentrated use areas. In Segments 2 and 4, riparian grasses have partially disappeared because of trampling; in the other segments, condition is fair to excellent and natural stands still remain. For the most part, forest types have changed only slightly in the past ten years due to recreational use. The loss of woody vegetation has been due to facility construction, vandalism, limbing of trees, and soil compaction by foot traffic.

Current heavy recreational use is preventing the successful re-establishment and natural reproduction of all vegetative types near recreation sites. This is especially true for all tree species including cottonwood, ponderosa pine, Douglas-fir, pinyon, and juniper.

The grassland, shrubland, and riparian types have a low capability to support recreational uses such as vehicle and pedestrian traffic. This is due to the presence of a sandy granitic soil with a poorly developed soil profile which is relatively infertile and difficult to retain. On the other hand, forestland and cropland possess a high capability to support recreational use and are more readily reclaimable.

a. Grassland Group

The grassland group includes the grass and meadow types. At least one of these types is found in each of the river segments. Dominant species in the grass types are Arizona fescue and Mountain muihy in Segment 1. Grasslands in Segments 2 through 6 are dominated by blue grama, Western wheatgrass, and needle-and-thread. The meadow type is found in small areas in Segment 1. This type is dominated by sedges and rushes.

b. Shrubland Group

The shrubland group includes the mountain shrub, sagebrush and saltbush types. The mountain shrub type is dominated by Gambel Oak and Mountain Mahogany. It exists in Segments 2 through 5 as pockets within the pinyon-juniper type. The sagebrush type is dominated by sagebrush and rabbitbrush and is found in Segments 1 and 2. The saltbush type is found in Segment 6 and is dominated by fourwing saltbush and greasewood.

c. Forestland Group

This group consists of conifer and broadleaf tree types. Major species are ponderosa pine, lodgepole pine, Douglas fir, aspen, cottonwood, pinyon pine and juniper.

Two Forest Management Plans (FMPs) have been developed for the forested public land within the Arkansas River Drainage: the Mt. Elbert FMP (EA No. CO-050-1-131) and the Kerr Gulch FMP (EA CO-050-8-82).

No active timber sales are located within the river corridor. Four timber sales in segment 1 do exist in areas where people generally using the river may see evidence of harvest activities. In segment number four, one sale exists that will be evidenced by the occasional trucks with forest products using the primary access routes. These sales and their locations are listed in Appendix H.

The affected area includes one stand of productive forest land. This stand was identified in the Mt. Elbert FMP as follows: "to thin stagnated stands and remove diseased trees from 28 acres of lodgepole pine in T. 12 S., R. 79 W., Sections 8 and 9 to help preserve the timber resource on a proposed recreation development site". This stand is in the center of subsection B, Segment 1 at the intersection of Clear Creek and the Arkansas River.

d. Riparian Zones (also covered under Animal Life)

Riparian areas exist on the entire length of the Arkansas River. Riparian bands occur along the river through the other vegetative types. The dominant species are cottonwood, willow, cattails, sedges, and rushes. The only vascular aquatic species that exists is cattail.

e. Croplands

Croplands occur in Segments 2, 3, 4, and 6. The most extensive crop is alfalfa and grass hay. These crops are flood or sprinkler irrigated.

6. Animal Life (all but livestock and T&E Species)

The Arkansas River is a unique habitat feature from its source north of Leadville downstream to Pueblo Reservoir. The semiarid climate in southern Colorado makes wetlands and riparian areas associated with the Arkansas River very important to a number of wildlife species. The riparian zone along the Arkansas River varies from several hundred feet wide near Leadville and east of Canon City to only a few feet wide in the canyon near Texas Creek. However, the importance of this riparian zone to wildlife does not diminish with its decrease in width.

Many species of wildlife are either dependent on wetland-riparian areas or utilize them proportionately more than any other habitat type. In southern Colorado such areas are extremely scarce and make up a relatively small portion of the land resources. Degradation has resulted in conditions which adversely influence water quality and quantity, recreational fisheries, aesthetics, and a wide range of fish and wildlife values.

When it comes to wildlife and animal populations in general, the riparian zone provides an almost classic example of the ecological principle of "edge effect." Not only are there many small species that are restricted to the riparian habitat but many, if not most, large animals such as big game require access to river and stream margins for survival even though they spend much of their time elsewhere. The riparian strip also provides the natural highways by which animals can move safely from one place to another.

Vegetation associated with the riparian zone varies greatly from Leadville to Pueblo. Generally, species such as sedges, rushes, and willows dominate the steamside vegetation. At higher elevations alders dominate with some conifers as do cottonwoods at lower elevations. Mixed in with these species are various grasses, shrubs, and forbs (see Vegetation portion of the EA). Vegetation found outside the riparian band also varies with elevation: sagebrush/conifer at higher elevation to pinyon-juniper at mid-elevation and open grassland in the plains.

Wildlife species associated with the Arkansas River Valley vary as greatly as does vegetation. A complete list of bird and animal species that may be found along the course of the Arkansas River is found in the Royal Gorge Unit Resource Analysis (URA), Step 4, and also in Appendix B of the Arkansas Canyon Habitat Management Plan (HMP). Both of these documents are on file in the Royal Gorge Resource Area Office in Canon City. Discussion of wildlife for the purposes of this EA will be limited to those species or groups of species that have some recreational or economic value or depend on the Arkansas River for some crucial habitat component.

a. Bighorn Sheep

The Bighorn Sheep (Ovis canadensis) is Colorado's State animal and is found throughout the Arkansas Valley where suitable habitat exists. The topography of the river valley is rough, rocky, and relatively "open" which makes it attractive to bighorn sheep. The need for rock outcroppings, precipitous cliffs, and rough topographic features is a part of the physical habitat of bighorn sheep. The juxtaposition and interspersion of these features with foraging areas influence the value of the habitat for sheep. Escape cover, especially during the lambing season, is critical.

218

At a very early stage in the history of Colorado, bighorn sheep were extirpated from much of their original range and were forced into more marginal habitats on restricted ranges. During the 1950's extensive die-offs occurred in most all the herds in Colorado. Much of this mortality was attributed to lungworm. As the herds recovered, a trapping and transplanting program was initiated to restock bighorn sheep to historic ranges. This program has been very successful and continues today.

In 1977, two herds (the Buffalo Peaks and Arkansas Canyon herds) consisting of approximately 200-250 sheep occupied habitats adjacent to the Arkansas River. Since 1977, eight sheep transplants have taken place adding 160 transplanted sheep to the population. These transplants have resulted in two new herds becoming established, the Grape Creek and Browns Canyon herds. The bighorn sheep population in the valley now numbers 500-550 sheep which spend all or a portion of the year adjacent to the Arkansas River. Additional transplants may take place as sites are inventoried and animals become available. These "low elevation" bighorn sheep herds have become an integral part of bighorn sheep management in Colorado.

The bighorn sheep is a unique species in that it is relatively rare (in some terms of total numbers) and generally difficult for the average person to view. Opportunities to observe bighorn sheep in their natural habitat are excellent along the Arkansas River in several areas. It is vital that these opportunities continue to be available to the general public.

In order to better describe the current status of bighorn sheep along the Arkansas River, a description of each herd for the various river segments follows:

1) Segment 1 - Leadville to Buena Vista

Bighorn Sheep are found in the Collegiate Peaks west of the river valley but do not spend any time along the Arkansas River. The Buffalo Peaks herd (Game Management Unit S-12), which numbers about 150 animals, is located east of the river in the East and West Buffalo Peaks area. These sheep summer and lamb on the peaks and are generally not found along the river during this time. Some winter use is made of the rocky slopes east of the river from Clear Creek to Langhoff Gulch on BLM and USFS lands. Less than 20 sheep use this area during the winter months. The Colorado Division of Wildlife issues 20 hunting permits for this unit each year.

2) Segment 2 - Buena Vista to Salida

The Browns Canyon herd (Game Management Unit S-47) is located in this river segment. Until 1980 this historic habitat was not occupied by sheep. Three transplants of 20 sheep each in 1980, 1982, and 1985 formed the nucleus of this herd. The herd now numbers approximately 125 sheep and are found in three general areas. The main herd (50-60 head) is located primarily in the Turret, Long Gulch, Railroad Gulch, and Stafford Gulch area on BLM and USFS lands east of the Arkansas River. Use along the river in Brown's Canyon itself is somewhat limited except for a small herd of about 30 animals that inhabit the lower end of Browns Canyon on the east side of the river. This herd is found at the mouth of the canyon and uses the area throughout the year.

A second portion of the herd is found in the Sugarloaf-Ruby Mountain area where they were transplanted in 1985. Half this herd has moved to the west into the Castle Rock Gulch area and half (8-10) have remained in the transplant area. These sheep use this range year-round and are occasionally seen during the summer months.

The third area of use for the herd (40-45 head) is the south facing slopes along the north side of the river from one mile west of Longfellow Gulch downstream to approximately Maverick Gulch. Sheep can be found in this area year-round but are most commonly seen during the winter months up until lambing season. Migration and movements of this herd are common from the Turret area back and forth to this winter range. Five hunting permits are issued for this unit every year.

3) Segment 3 - Salida to Vallie Bridge

Sheep use in this segment is limited to the Browns Canyon herd which was described in the previous segment. No other bighorn sheep herds are found in this segment.

4) Segment 4 - Vallie Bridge to Parkdale

This segment contains two large sheep herds which spend a considerable amount of time along the Arkansas River. The Arkansas Canyon herd (Game Management Unit S-7), which numbers approximately 120 animals is located north of the river with the primary range being the south facing slopes between Big Hole and Parkdale. Sheep can be seen in this area year-round but are more common in the winter.

Ewes generally move onto midslopes in rough terrain to lamb in the spring. Since the area is extremely dry with few natural springs, sheep are often seen along the river watering in mid-morning and mid-afternoon.

The Grape Creek Herd (Game Management Unit S-49) consists of approximately 115 animals and is located south of the Arkansas River. Prior to 1983 no bighorns existed in this area. Transplants of 20 sheep to 3 sites (one southeast of Texas Creek and two in Grape Creek) between 1983 and 1985 established this herd. Presently the herd is split equally between two major use areas, one being the lower Grape Creek area between Temple Canyon and Bear Gulch. The second use area is along Highway 50 south of the river from just west of Texas Creek east to Baker Gulch. Water does not appear to be limiting as these sheep seldom cross the highway to access the river. However, a few vehicle/sheep accidents have been documented and on occasion sheep will move across the river and mix with the Arkansas Canyon herd. For management purposes, the herds are considered as two separate populations. Eight hunting permits are issued for Game Management Units S-7 and S-49.

In January of 1988 an additional sheep transplant was completed that also falls within this river segment. Twenty sheep were released in Cedar Springs Gulch north of Coaldale on public lands. Poor habitat is available along the river and these sheep will most likely select a home range one to two miles north of the river. However, it is still too early to determine where these animals will settle. Newly transplanted bighorn often wander around for several months and recent sightings of this herd confirm this. Several ewes have stayed in Cedar Gulch, however, young rams were spotted three miles north of Cotopaxi and six sheep are utilizing the rough, reddish cliffs northwest of Cotopaxi on the river.

The success of bighorn sheep transplants in the river canyon over the last several years has prompted the Division of Wildlife and BLM to look at other possible transplant sites. An area under consideration is the public lands south of the river between Cotopaxi and Texas Creek. Other sites may be examined as time and resources allow.

5) Segment 5 - Parkdale to Canon City

No bighorn sheep are found in this segment.

6) Segment 6 - Canon City to Pueblo Reservoir

No bighorn sheep are found in this segment.

b. Mule Deer

Mule deer (Odocoileus hemionus) are the most common big game animal found in the Arkansas Valley. They inhabit all the vegetation types at all elevations including the riparian zone adjacent to the river. The riparian zone is used for feeding, bedding, watering, as hiding cover and as travel lanes. Few deer spend their entire life in this area but more commonly use it as a small portion of their home range. Much more important to mule deer are the adjacent habitats where other habitat components are found. The habitats along the river are used heavily during winter months when snow in the higher elevations push deer to the lower elevations. During spring, summer, and fall, the majority of deer move to upper elevation ranges. However, where suitable habitat exists, such as wide riparian areas adjacent to hay meadows, some deer will remain year-round. These animals are generally very accustomed to the presence of humans and associated disturbances. The very components that make the river valley so attractive to wildlife also make it important for highways, housing developments, recreation and other similar uses. Survival of deer in these areas require them to be fairly secretive resulting in strictly nocturnal activities. This is evident by the large numbers of animals seen in the evening and early morning along the highways throughout the year. The highways themselves can be a serious problem for mule deer. The Division of Wildlife has identified major deer crossing points where deer/vehicle accidents are common. They estimate approximately 400 deer are killed annually in the Arkansas Valley from Leadville to Canon City.

Mule deer also provide an important source of economic benefit to the area as a result of the popularity of big game hunting. Thousands of deer hunters, resident and nonresident alike, converge on the valley in the fall to pursue mule deer. Likewise, tourists throughout the year enjoy viewing mule deer and other wildlife species.

c. Raptors

Several species of raptors can be found in the valley along the river. Only one, the Osprey (Pandion haliaetus) depends on the river as an important part of its habitat. Osprey are uncommon in Colorado and are found in the valley only during spring and fall migration periods. They do not inhabit the valley year-round. Being fish eaters, they stop along the river to feed as they migrate north.

Golden eagles (Aquila chrysaetos) are a common bird during most of the year. Nest sites in the cliffs and rock faces are abundant in the river canyons. Prairie Falcons (Falco mexicanus) also frequent the same habitat sites. Other species in the area include red-tailed hawks (Buteo jamaicensis), Swainson's hawks (Buteo swainsoni) and kestrel (Falco sparverius).

d. Waterfowl

Various species of waterfowl are found along the Arkansas River. The most abundant duck in the valley would be the mallard (Anas platyrnynchos) followed by widgeons (Mareca americana) and green-winged teal (Anas carolinensis). Canada geese (Branta canadensis) are common but not numerous. In terms of numbers of ducks and geese, the lower river from Canon City to Pueblo Reservoir harbors the most birds. The habitat there is more suited to waterfowl in addition to being located closer to the Central Flyway. The river from Leadville to Browns Canyon has moderate numbers of birds whereas Browns Canyon and the area between Canon City and Texas Creek are less suitable for ducks. The number of broods raised in the valley is small and relatively insignificant on a statewide basis. Although the number of birds in the area is small, their use is concentrated in the river and nearby ponds, ditches, and sloughs. These riparian zones are extremely important to these species, especially during the spring and summer when broods are being raised.

e. Nongame

An abundance of nongame species inhabit the Arkansas Valley from Leadville to Pueblo. Most are associated with the riparian zone along the river itself. Great blue herons (Ardea herodias) are known to nest along the river near Florence, however actual numbers of birds occupying the rookery are unknown.

f. Fisheries

The Upper Arkansas River begins at the confluence of the East Fork of the Arkansas and Tennessee Creek. The cold water fishery extends downstream to Pueblo Reservoir about 148 miles. The fishery contained within most of the Upper Arkansas is resident brown trout, with density and biomass varying greatly due to local effects.

The 1979 stream and lake evaluation map of the State of Colorado classified river drainages according to the existing fishery resources. The Upper Arkansas River was given a Class I rating, which designates it as a high-valued fishery resource for the State of Colorado.

The water quality of the Upper Arkansas basin is generally relatively good. Tributary streams in the basin show high levels of dissolved oxygen, and low levels of organic material, nitrogen, phosphorus, fecal coliform counts and total dissolved solids. Despite the high quality water in tributaries feeding the Arkansas River, water quality in the river itself is generally poor due to discharges from mines in Leadville. High levels of heavy metals enter the river and this has a detrimental impact to the fishery in the upper reaches.

Fishery resources on the river are managed by the Colorado Division of Wildlife, primarily for the benefit of users on public lands. About 30% of the river is managed by the BLM, mostly located in Browns Canyon and below Texas Creek. The DOW also leases a number of miles for fishing access. A variety of fish management strategies have been used on the Arkansas including stocking of catchable (9-11") and fingerling (3-4") trout, special harvest restrictions, and habitat improvement.

Throughout much of the Arkansas, brown trout, and in some areas, rainbow trout are able to sustain their population by natural reproduction. To denote such areas the DOW classifies these stretches as Wild Trout Waters. No supplemental stocking of fish is conducted in these areas. Where fishing pressure is higher, some sections of the river have been stocked with catchable rainbow trout (Elephant Rock to Clear Creek, and near Fernleaf Gulch) to maintain good catch rates.

To monitor the effects of various management practices, the DOW conducts sampling of the fish populations in several different sections of the river. The fish populations are categorized by the species of fish, and the size range, density and abundance of trout. Anglers are also contacted as a part of statistical creel census. From this information, fishing use, catch composition, and catch rate are determined.

The Arkansas River is extremely important as a trout sport fishery. Of the 148 miles of fishery, approximately 90 miles is considered good to excellent trout fishing. The low elevations and generally mild winters allow for fishing year-round on 60 miles of river. The proximity of the river to large metropolitan areas including Colorado Springs and Pueblo make it attractive to day fishermen. The Arkansas is noted for its excellent fly fishing with natural hatches common, the most notable being the caddis fly hatch in the spring.

Late spring and summer bring higher runoff flows that in most years makes fishing difficult and often unproductive. The duration and intensity of runoff varies. Generally when flows exceed 1800 cfs fishing is extremely difficult. Fishing improves as flows reach 1200 cfs and is considered excellent when at 800 cfs or lower. However, at low flows, intense summer thunderstorms can increase turbidity significantly impacting fishing for short periods of time.

A fisherman averages about four hours of active fishing per day. Fishing pressure in terms of fisherman days of use is designated for the six segments of the river from Leadville to Pueblo on the Fisherman User days table in the Recreation Section of this chapter. These figures are derived from DOW creel census data where available or by extrapolating figures from one segment for use in another. When analyzing the figures, it is important to take into consideration the variability of the numbers due to differences in flows, weather, turbidity, etc. In addition, these figures are for accessible miles i.e, public lands and public easements, etc. It is not unreasonable to assume these figures may vary by 10-15 percent up or down depending on fishing conditions from year to year. It is estimated that fishing pressure on private lands may increase these figures by 10%. With this in mind, total fisherman user days on the river could fall between 21,000 and 28,000 on any give year.

Due to the physical and biological differences along the Upper Arkansas, six segments have been designated. The affected environment for fisheries is described according to these segments which are as follows:

1. Leadville to Buena Vista
2. Buena Vista to Salida
3. Salida to Vallie Bridge
4. Vallie Bridge to Parkdale
5. Parkdale to Canon City
6. Canon City to Pueblo Reservoir

1) Segment One - Leadville to Buena Vista

The river varies greatly within this segment in physical, chemical, biological and recreational characteristics. This is primarily due to the influence of tributaries such as Lake Fork Creek, Lake Creek, and Clear Creek. For discussion, this segment will be subdivided into two reaches one above Lake Creek and the other below.

a) Reach One - Above Lake Creek

i. Physical

The upper and lower elevations of this reach is 9728 and 9040, respectively. Above Lake Creek the gradient is about 1%. The bottom material is primarily large cobble to gravel, but an area with sand bottom occurs in a flat area just above Lake Creek. The channel is generally about 60 feet wide and the mean flow for the Malta gage is 248 cfs (cubic feet per second). As with most of the river, the channel is confined between the railroad and the highway and has few meanders. Habitat for trout is limited as a result of this confinement and channelization. There is little instream cover except for bank rip rap and around bridges.

ii. Chemical

Many studies have been completed since the mid 1960's concerning the heavy metal pollution problem of California Gulch. Most have found toxic levels of heavy metals in the river from California Gulch to Lake Fork Creek. All studies have stressed the importance of dilution flows from Lake Fork Creek and Lake Creek to maintain viable fish populations. Two of the most severe heavy metals pollution sources on the Upper Arkansas River are the Leadville Drainage Tunnel and California Gulch. These discharges drain large areas of abandoned mines. Discharges from these sources will continue to have a major role in the degradation of water quality in the upper section of the river.

iii. Biological

The East Fork of the Arkansas River above the Leadville Drain, and Tennessee Creek both have healthy populations of brown and brook trout as shown in the table on the next page. Below the Leadville Drain the trout population numbers are about 30% of what was found immediately above.

From California Gulch downstream to the confluence with Lake Fork Creek, the river is almost devoid of fish. This condition was found by Finnel (1977), Roline (1981), and Anderson (1985).

After the Arkansas is diluted with good quality water from Lake Fork, trout are again able to inhabit the river.

Heavy metal pollution has also affected the invertebrate populations of the river. Finnell (1977) compared insect population above and below California Gulch. Total abundance and mean diversity indices of aquatic macroinvertebrates were significantly lower immediately downstream of both the Leadville Drainage Tunnel and California Gulch. Predominately clean water species were found above the California Gulch inflow and heavy-metal-tolerant species were found below.

iv. Recreational

There is virtually no public access to the river above Balltown. However, fishing activity does commonly take place for about 2.3 miles above Balltown. Results of electrofishing surveys made in the Upper Arkansas System in 1986 and 1987 (only trout ≥5" length) are listed in the following table.

Station	Estimated Trout Population	Location of Station
1	3,249	East Fork above Leadville Drain
2	2,949	Tennessee Creek
3	924	East Fork below Leadville Drain
4	880	Arkansas 0.5 mile below Confluence
5	1,294	Arkansas just above California Gulch
6	0	Arkansas just below California Gulch
7	586	Arkansas just below Lake Fork Creek
8	520	Arkansas just above Lake Creek
9	2,019	Arkansas at Granite

b) Reach Two - Below Lake Creek

i. Physical

At the Granite gage the mean flow for the river for the period of record (POR) (77 years) is 384 cfs, and is exceeded 31% of the time. Median flow (50%) is 160 cfs. The average peak discharge for the 77 year period is 1,982 cfs, but the peak discharge flow from 1978 to 1986 averaged 2,613 cfs. The last ten years have been much wetter than the long term records show. Peak flow usually occurrs in mid June while the average minimum flow of about 100 cfs occurs in the winter months.

The following table shows mean annual flow for the last ten years, and average flow and ranking for the period of record.

	GRANITE		SALIDA		PARKDALE	
YEAR	**MEAN**	**RANK**	**MEAN**	**RANK**	**MEAN**	**RANK**
1987	321	57	630	45	?	?
1986	508	9	823	9	1060	4
1985	573	3	858	8	1090	3
1984	687	1	1010	2	1270	1
1983	647	2	909	4	1220	2
1982	492	11	672	36	839	13
1981	342	49	410	67*	518	30
1980	545	4	776	11	1040	5
1979	538	6	707	25	910	11
1978	463	17	556	51	662	25
MEAN	512		735		957	
POR MEAN	384 (77 years)		630 (78 years)		818 (32 years)	
Ratio	1.33		1.17		1.17	

*extrapolated based on Wellsville gage for 1981.

The wet cycle of the last ten years applies to the entire river as shown in the preceding table. An important fact from this table, under the RANK heading, is that for the 77 year period of record, five of the highest flow years have occurred during the past eleven years. The problem with using the recent past flow patterns for projecting future recreation use is that most recreation activities on the river are intimately associated with flow. High water years have benefitted the white water rafting but have probably repressed the fishing. It can be expected that in an average or below average year, fishing use would be higher.

Stream profile measurements were taken at two sites, one approximately one-quarter mile above Granite and the other about midway between Granite and Buena Vista. The channel width was 103 and 107 feet respectively and gradient in the riffles averaged about 0.5%. The fishery habitat between Balltown and Buena Vista is much improved compared to upstream. Boulders are more dominant and have created many deep pools.

ii. Chemical

Water quality appears to be good for most of the year. Water quality deteriorates during the runoff period or following thunderstorms, due to leaching from the mine tailings around Leadville. Most of the heavy metals have combined and are not in a free state that would be readily absorbed by the aquatic life. Substrata samples were taken by Yurczyk and Windell, (1985) in their study of the effects of dredging on water quality. He found very high levels of zinc, lead, and copper in the substrata. It is believed that this is a fair description of the water quality in general for the rest of the river.

Other factors such as angling mortalities, quality of forage, and habitat quality may also be contributing to the lack of larger trout, but Nehring (1986) found very high concentrations of metals in the liver and kidneys of trout.

iii. Biological

This reach supports more trout than the upper reach, although it is still considered below potential. Electrofishing at the Granite Bridge in 1987 found about 170 trout/acre, (66 lb/acre) or 2,020/mile. In 1985 a station was sampled about 1.5 miles below the Otero pump station which had about 930 brown trout per mile. The Otero station was also sampled in 1980 (Nesler 1982) and about 900 trout/mile were found. No trout were found over 14 inches, which suggests that the heavy metals may be impacting the life expectancy of the trout.

iv. Recreational

Fishing has commonly taken place between Balltown and Clear Creek, despite the fact that all of the river is privately owned. There is about 4.0 miles of BLM land in the Elephant Rock area and fishing is popular there.

The DOW regularly stocks catchable rainbow trout in the segment between Clear Creek and Elephant Rock.

2) Segment Two - Buena Vista to Salida

a) Physical

There are three stream gages in this segment, Buena Vista, Nathrop, and Salida. The mean annual flow for these gages is, 506 (1965-80, 16 years), 645 (1964-82, 18 years) and 630 (1910-87, 78 years), respectively. Flow patterns are similar to Granite, in that peak discharge usually occurs in mid June. In only 3 of ten years has flow exceeded 1,200 cfs before May 20 or after July 22. In an average year like 1987, flow dropped below 1,200 cfs by July 3, in wet years like 1983, by August 15, and 1985, by July 30.

Channel width varies from 104 to 170 feet and gradient averages 0.5%. The minimum flow based on profile measurements was 270 to 300 cfs. The fish habitat is considered excellent in most of this segment. In general, most of the cover is provided by boulders and there is very little cover associated with the bank. Habitat does not appear to be limiting for any life stage, except for fry when the runoff exceeds 2,000 cfs in May. It has been documented that high runoff flows reduce the amount of fry habitat and increase mortality on small fry. Since the river generally does not freeze in the winter, winter mortalities are unlikely to occur.

b) Biological

Only one station has been electrofished in this segment. A two mile reach was sampled from Big Bend to County Road 166 bridge. The population for trout over 6 inches was estimated at about 2,000/mile and about 1,210 pounds per mile in April 1988. This station had fewer fish compared to downstream stations but the brown trout were larger (average weight per fish was 0.61 lbs), compared to the Salida (0.49) and Howard (0.45) stations. This is an indication of better quality habitat and/or better forage availability.

c) Recreational

About 8 miles of the river flow through BLM land between Buena Vista and Big Bend. Access is poor and mainly found at Ruby Mountain and Hecla Junction. To fish Browns Canyon it is necessary to park at Hecla Junction and walk downstream for up to 2 miles before private property is reached.

A lease obtained in 1988 opened two miles to fishing downstream of Big Bend. This area was very popular in the Spring of 1988. There has been no stocking of catchables in this segment since 1976. In 1981 the Arkansas River from Gas Creek to Fourmile Creek (Browns Canyon) was designated a WILD TROUT area which means that the state does not stock this area. There were no regulation changes or any kind of follow up regarding this designation. The wild trout designation has been dropped and a catchable stocking program will start for Browns Canyon, Big Bend, and the state property near the hatchery. Also a wild strain of Colorado River rainbows will be introduced in Browns Canyon.

Special restrictive fishing regulations are being considered for the area between Big Bend and County Road 166. In 1985 the BLM cooperated with the DOW and Chaffee County on a small habitat improvement project in the Ruby Mountain area. Approximately 15 large boulders were placed in a flat, calm stretch of the river to provide cover and resting areas for trout.

3) Segment Three - Salida to Vallie Bridge

a) Physical

Records from the gage at Wellsville show the mean flow (24 years) is 730 cfs. Only 30% of the time has the flow exceeded 1,540 cfs by May 21, and 1,500 cfs by July 22 at Wellsville. In water years that are comparable to 1980, 1983, 1984, and 1985, when mean annual flow exceeded the long term mean by 200 to 400 cfs, fishing use will be light in the summer. However, in an average year, such as 1982 when the peak flow was only 2,900 and discharge exceeded 1,500 cfs from July 2 to July 9, fishing recreation will be much greater. 1987 was also an average year with a mean flow of 748. The maximum discharge in 1987 was 4,050 on June 10, but by July 15 the flow was 830 cfs.

Many aspects of flow are related to population dynamics of trout. Comparisons have been made between flow levels and fry habitat availability, fry survival, summer mortality, winter mortality, and spawning success. Not only do the maximum and minimum flows impact the population, but the timing of high and low events is also very important. For example, a flow of 3,000 cfs would cause a much higher mortality on brown trout fry in May than in July. It appears that the early runoff of 1987, when flows were 3,300 cfs in mid May, hit the fry when they were most vulnerable.

Two stream profile measurements were taken in 1987, one below the South Arkansas confluence and the other at Howard. Channel width was found to be 118 feet. Near Swissvale, the river slope is reduced and the river is flat and deep.

Badger Creek, about midway in this segment, can profoundly impact the river. The sediment load to the river has been estimated as high as 42,043 tons per year. The sediment from Badger Creek is often responsible for muddy conditions on the river below its confluence. The effects of this tremendous sediment transport on aquatic life on the Arkansas River have not been determined. However, excessive sediment can reduce aquatic insect abundance, smoother trout fry and eggs and reduce adult trout habitat through filling of pools. Increased suspended sediment reduces fishability and aesthetics. The Badger Creek watershed problems and rehabilitation are being addressed through a cooperative plan with BLM, USFS, Trout Unlimited, and private land owners within the basin. Sediment transport from Badger Creek in Tons (taken from the USGS water data book) is shown on the following table.

				Month			
Year	April	May	June	July	August	September	Total
1986	2	16	1827	12	6	5	1867
1985	6410	172	145	5023	23	5	11780
1984	139	259	21	33285	7336	3	41043
1983	9289	2776	?	35	30681	?	42781
1982		2	2	4	74	3695	4699

b) Biological

Population surveys have been made on two reaches of this segment. In 1988, 3,340 trout over 6 inches per mile were found between Stockyard Bridge and Badger Creek, 2,900 (1,430 lb) per mile were brown trout and 440 (250 lb) per mile were rainbow trout. Also in 1988 the estimate for brown trout was 2,823 per mile between Howard Cemetery and Vallie Bridge. A research project was conducted from 1981 to 1985 to assess the effects of special regulation management on the brown trout population. Population numbers range from 2,064/mile to 3/563/mile. This station had the highest trout density of the areas surveyed on the river. Also it has the only self-sustaining rainbow trout population on the river. Wild rainbow trout introduced in 1985 at fry size, were up to 14-16 inches in 1988. The protective fishing regulation has been effective in increasing the trout density for fish under 16 inches.

c) Recreational

This segment, from Salida to Vallie Bridge, is a very popular fishing area. A special regulation that allows for a two trout bag limit for trout over 16 inches, with flies and lures only, was established from Stockyard Bridge to Badger Creek in 1982. Wild rainbow introduced below the Stockyards have also been very popular with the fishing public. Fishermen use is expected to increase in this segment because a 1988 fishing lease has opened about 2 miles of river for fishing.

In contrast to fishing, this has not been a high use area for commercial rafting. Flatter water is more prevalent in this segment which probably accounts for low boater use. It is likely that this segment could see an increase in rafting as the more popular whitewater areas fill.

This area was dropped from the Gold Medal program in 1988 because it no longer met minimum standards. The special regulation now in place will continue. Catchables will be stocked at Howard and wild rainbow will be planted between Salida and Badger Creek.

Approximately $35,000 has been spent on fish habitat improvements in this segment since 1981. The BLM using Federal Aid money coordinated through the Division of Wildlife placed large boulders in the river to provide fish habitat. Two areas of public lands were selected and 330 boulders were placed in the area from Stockyard Bridge to the Fremont/Chaffee County Line and from Swissvale to Badger Creek.

4) Segment Four - Vallie Bridge to Parkdale

a) Physical

Most of this segment is sandwiched between the highway and the railroad.

The mean annual flow for the period of record (32 years) is 818 cfs at the Parkdale gage. The year 1981 was the only year that the mean annual flow (518 cfs) was less than the long term mean. The records show that flows dropped below 1500 cfs by August 1 in 6 of the last 8 years.

Below Texas Creek the channel is very confined. The habitat alternates from swift current runs, large deep holes, to wide shallow glides. Good trout habitat exists in localized areas. Texas Creek also provides spawning habitat. Brown trout typically prefer to spawn in shallow, gravelly side channels in the main stream or in tributaries. This type of habitat is uncommon in this segment.

b) Biological

Electrofishing stations were set up and samples taken from Coaldale to Canyon Liquor (1), KOA to Fernleaf Gulch (2), and on Tezaks, from the A frame cabin to the Texas Creek Store (3). These stations were sampled in 1981, 1982, and 1983. Population numbers for this segment show a respectable wild brown trout population. The brown trout density for age 2+ and older was from 1,500 to 3,060 per mile on Station 1, 1,500 to 2,920/mile at Station 2, and from 2,110 to 3,250/mile at Station 3. There were no trout sampling stations on the river below Texas Creek.

The macroinvertebrate community in this segment of the Arkansas River appears to be stressed. Using a Biotic Condition Index, a 1981 macroinvertebrate sample analysis concluded that most of the species of invertebrates found in this area were tolerant of high levels of sedimentation, while clean water species were not as prevalent. The dominance of sediment tolerant species indicate sedimentation is a problem and may be detrimental to the aquatic ecosystem. Winters (1988) reported that brown trout growth is limited by unavailability of large forage items.

c) Recreational

About 5 miles of the river between Vallie Bridge and Texas Creek is open to the public. Fishing pressure varies with the runoff and turbidity of the water. For example, in the high flow year of 1980 there were only 750 hours in June, but in 1981, a low runoff year, use was 1,560 hours for the same time period. Summer thunderstorms caused turbidity in 1981 and pressure was less in August (1,412 hours), compared to August 1980 (3,516 hours).

Public access is available from Texas Creek to Parkdale on BLM land and totals about 14 miles of river.

Presently the fishing public utilizes the numerous vehicle pullouts to fish the river. Much of the river is not fished because of access or parking problems.

Cooperative habitat improvement projects between BLM and DOW using Federal aid money have been completed in this segment. Over $63,000 has been spent placing 775 boulders in the river in four major areas. Rocks have been placed on public lands in the river from Big Cottonwood Creek to Kuntz Gulch, Loma Linda to Fernleaf Gulch, Tezak to Texas Creek, and the Pinnacle Rock to Spikebuck area.

5) Segment 5 - Parkdale to Canon City

a) Physical

The river in this segment runs through the Royal Gorge, a steep-walled canyon over 1,000 feet deep. The river is restricted and narrow through this stretch dropping 300 feet in elevation. Flow information is not available for this segment.

b) Biological

The physical nature of this segment precludes doing any biological measurements or surveys. Generally, trout habitat in the gorge is limited. The lower river from the Tunnel Drive area to Canon City is good trout habitat with conditions similar to Segment 4.

c) Recreational

Access to the river is available from Tunnel Drive near Canon City. Creel census surveys have not been completed in the area and use projections are unavailable.

6) Segment 6 - Canon City to Pueblo Reservoir

a) Physical

The river from Canon City to Pueblo Reservoir is generally slow and wide with a low gradient. Water temperatures increase and as a result fish species composition changes. No flow data is available.

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b) Biological

Boat electrofishing was conducted by the DOW on two occasions in 1983. Only game fish were netted. From Highway 115 near Florence to the Portland Cement plant, 44 rainbow trout and 60 brown trout were collected.

Rod VanVelson sampled the river in 1981 by electrofishing four times in this segment. Two stations were sampled in April and again in September and were 1,100 feet in length. The fish collected by VanVelson are depicted on the following table.

	Upper Station		Lower Station	
Species	4-15-81	9-30-81	4-15-81	9-30-81
Rainbow Trout	25	0	9	0
Longnose Dace	91	39	0	29
White Sucker	22	15	108	20
Longnose Sucker	34	1	107	1
Flathead Chub	3	0	5	0
Fathead Minnow	2	0	1	0
Black Bullhead	3	1	7	0
Channel Catfish	0	1	0	1
Green Sunfish	22	4	4	15
Orange Spotted Sunfish	1	--	30	--
Stoneroller	--	1	1	--
Yellow Perch	--	--	--	2
Red Skinner	--	--	--	5

c) Recreational

No public land is available for public use with the exception of DOW property on the west end of Pueblo Reservoir. No Creel Census work has been completed and use figures are unavailable.

7. Access and Transportation

Access and transportation deals with:

- Legal vehicular access via public roads, such as Federal, State, County highways.
- Acquired easements across non-federal land that provides legal vehicular access to public lands.
- Legal access via boat on the Arkansas River, under state law.
- Horse or foot access to public land via a legal public way, such as a public land trail, easement, or cross country.

a. Transportation

The transportation system serving the Upper Arkansas Valley (above Canon City) has remained largely untouched by the large changes in the nation's transportation facilities over the last twenty years. For the most part, multi-lane interstate highways and modern air passenger terminals have not been constructed in the area. Rather, the region's transportation system has developed in a manner appropriate with the valley's low-intensity agricultural, mining and recreational economy. This discussion focuses on the existing conditions and potential plans for the two major segments of the transportation system: Highways and Railroads.

1) Description of Existing Roadways

Highway access to the Upper Arkansas River is provided by a system of two-laned high-speed rural roadways. Access to and from the north is provided by US 24 and to and from the east by U.S. 24 and 285, which serves as a route to Segments 1 and 2 of the River. During the summer and early fall months, access to Aspen and Glenwood Springs to the west is provided by State Highway 82. To the east and south, U.S. Highway 50 provides access to Canon City, as well as Pueblo and Colorado Springs. From these two cities, I-25 is accessed which serves the major Front Range cities in Colorado. Highway 50 also provides access to the west to Gunnison, Montrose, and Grand Junction.

U.S. Highway 24 serves as one of the three major highways in the Upper Arkansas Valley (Segments 1 and 2). At Johnson Village, U.S. Highway 24 turns east and provides the primary link to Colorado Springs, approximately 92 miles distant. At Johnson Village, U.S. 24 also intersects with U.S. 285, which provides access to U.S. 50. As it passes through Buena Vista, U.S. 24 is a four-lane arterial, with a traffic signal at the intersection with Main Street. Between Buena Vista and Leadville, U.S. 24 is a high-quality rural two-lane highway, with a 55-mph posted speed limit over most of the distance. Travel lane width is typically 12 feet, with 4 to 8 foot-wide shoulders. Design speed is generally high, with the exception of several curves and one short grade approximately three miles to the south of Granite.

Highway 285 provides access to the Upper Arkansas Valley from Denver. U.S. Highways 24 and 285 descend from Trout Creek Pass to the east at Johnson Village. From Johnson Village, U.S. 285 turns south to Salida and the San Luis Valley. It provides access to river segments 1, 2, and 3. U.S. Highway 285 is a high quality rural two-lane highway, with a 55-mph posted speed limit. It contains several passing lanes and numerous turning lanes through this segment. The travel land is typically 12 feet, with 4 to 8 foot-wide shoulders. This stretch of highway serves two of the most frequently used recreation sites on the entire River, Hecla Junction and Fisherman's Bridge.

U.S. Highway 50 serves as the third major highway in the Upper Arkansas Valley. The highway runs primarily east and west and parallels the River from Parkdale to Salida. It provides access to Colorado Springs via State Highway 115 and Pueblo and points east on U.S. Highway 50 and the front range via I-25 South. East of Canon City, U.S. Highway 50 is a four-lane highway, with a 55-mph posted speed limit.

The section of U.S. Highway 50 through the Arkansas Canyon is a gentle rise with short grades of 4 percent. Many sharp curves result in slow travel speeds and short sight distances from Parkdale to Salida. The travel lane is typically twelve feet wide but in some areas has shoulders of only 2 feet in width. Numerous pullouts which facilitate river recreation use present additional obstacles to smooth traffic flow. Overflow parking lots south of the highway necessitate pedestrians crossing the highway to access the River. There are numerous climb lanes located in the canyon. This highway segment is the weak link in the transportation system.

There are nine county roads that serve as access routes to proposed or present recreation sites. Seven roads are located in Chaffee County, one in Fremont, and one in Pueblo. Maintenance is provided by the perspective county as part of their road system.

Chaffee County Road 371 (Fourmile Road) consists of 9.5 miles of maintained gravel providing recreational access to segment 1, east of the river and north of Buena Vista from U.S. 24. This road averages 18 foot in width and has one recently constructed and one-lane bridge crossing the Arkansas River.

Chaffee County Road 301 (Fisherman's Bridge) consists of one mile of gravelled road accessing Fisherman's Bridge Recreation Site from U.S. 285. This segment also serves Ruby Mountain Recreation site via Chaffee County Road 300. Road 301 averages 24 feet wide and has one bridge (Fisherman's Bridge) which is scheduled to be rebuilt with Federal Aid sometime after 1990. Road 300 (Ruby Mountain Road) averages 20 feet in width and is 3.5 miles in length. It accessed Ruby Mountain Recreation Site on the east side of the River. There are no structural developments on this road.

Chaffee County Road 194 (Hecla Junction Road) consists of 2.75 miles of gravelled road accessing Browns Canyon via U.S. Highway 285. This road averages 20 feet in width and does not receive winter maintenance when it is closed to traffic. Turning lane and parking areas at the junction of Road 194 and U.S. 285 have recently been completed to facilitate a smoother, safer traffic flow off of U.S. 28 onto Road 194.

Chaffee County Road 191 (Stone Bridge Road) consists of about 0.40 mile of maintained gravelled road from Highway 291 to where it crosses the Arkansas River at the Stone Bridge. Traffic across the bridge is estimated at 10 ADT (Average Daily Traffic). The bridge is noted as an Historic Bridge and has weight limitations. Chaffee County would like to remove this bridge and provide alternative access to private landowners.

Chaffee County Road 165 consists of 0.56 mile of 20 foot wide maintained gravelled road. Access to this road is provided by U.S. 285 from the west. In 1986 ADT was estimated at 40.

Chaffee County Road 193 consists of 1.45 miles of 22 foot wide gravelled road. It is a shortcut between Highway 291 and U.S. 285 and lies on the old highway grade. No current estimate of ADT is available.

Fremont County Road 112 consists of 1.1 miles of gravelled road accessing the Arkansas River near Beaver Creek confluence. This road averages 20 feet in width. County responsibility ends four miles from the proposed Beaver Creek recreation site. This additional mileage would require construction and maintenance funds to render this site functional.

The Swallows Road located in Pueblo County consists of 3.5 miles of 24 foot wide gravelled road. This road connects to another gravelled road maintained by the Colorado Division of Wildlife which leads to the proposed Swallows recreation site and is 0.5 miles in length.

2) Existing Roadway Capacity

Many factors influence a roadway's ability to accommodate traffic, including grades, design speed, roadway width, percentage of trucks and other heavy vehicles, and the availability of shoulders. The following data, from the Colorado Department of Highways, is a list of maximum capacities for the major highway segments, in terms of vehicles per hour (VPH), for one direction travel only: U.S. Highway 24 from Twin Lakes to Buena Vista (Segment 1) 1,600 vph, U.S. Highways 24 and 285 from Trout Creek Pass to Johnson Village (Segments 1 and 2) 1,450 vph, U.S. 285 from Johnson Village to Poncha Springs (Segment 3) 1,600 vph, and U.S. Highway 50 from Salida to Parkdale (Segment 4) 1200 vph. Maximum roadway capacity currently is constrained by topography and traffic congestion rather than manmade features such as stop lights.

3) Highway Traffic Activity

In this analysis, highway traffic activity is evaluated in terms of traffic volumes, vehicle classifications, and accident frequency.

a) Traffic Volumes

Average Daily Traffic count programs are maintained both by the Colorado Department of Highways (for state roads) and the Chaffee County Road Clerk (for Chaffee County roads). Traffic counts are highest in the vicinity of Leadville, Buena Vista, Salida, the Royal Gorge, and Canon City.

The volume of traffic using the highway system is a reflection of recreational activities being carried out in the region. During the summer (mid-May to Labor Day) recreationists floating the Arkansas River and travelling through to western and southern destinations dominate the highway system. During October another but smaller peak of traffic volume results from big game hunting. And finally the ski industry also produces a peak of traffic volume during the period December through March. According to traffic counts made at Five Points Campground in 1987-88, the summer period carries the greatest volume of traffic (1,655-1,870 vehicles per day one way), with October the next busiest period with 1,140 vehicles, and the winter period the least busy of the three traffic peaks. November and April carry the smallest traffic volumes.

Arnold, Brown, and Driver (1981), conducted a dispersed recreation use study in 1978 in the Arkansas Canyon and found that traffic volume on U.S. Highway 50 averaged 3,629 vehicles per day for the 100 day period of May 28 to September 2. The rest of the system has similar traffic volumes. Twenty percent of the vehicles were recreationists (19 percent at Salida and 25 percent at Parkdale) with the recreational use broken down as follows:

Sightseeing	29 percent
Fishing	24 percent
Camping	22 percent
River running	11 percent
Other	14 percent

Only near recreation sites adjacent to the highway system does traffic congestion currently cause notable traffic flow restrictions. Further, these problems only exist during peak traffic volume hours on peak volume days (Saturdays).

The ADT volumes are averaged over the entire year and thus do not represent the markedly higher volumes present during the busy summer vacation season. During this time it could be expected that volumes average 3,000-3,700 vehicles per day. Traffic volume could also be expected to be greatest over the midday period with the maximum hourly volume occurring between 2:00 p.m. and 4:30 p.m. There is no known estimate of maximum hourly volume either by BLM or the Colorado Department of Highways.

Chaffee County Road traffic volume in 1985 was 220 vehicles per day (vpd) for Fisherman's Bridge Road, 250 vpd for Hecla Junction road, 100 vpd for the Fourmile Road, and 190 vpd for the Ruby Mountain Road.

Volumes on the highway system near river Segments 1 and 2 have dropped over the last six years as a result of declines in the local economy (particularly in the Leadville area). Segments 3 and 4, Salida, and Canon City have had volumes remain constant or slightly increase.

b) Vehicle Classification

The class or type of vehicles utilizing a roadway is an important factor on capacity and operating conditions, particularly for two-lane rural highways. Vehicle classification counts within the system average 12 percent trucks or buses.

c) Accident History

The most up-to-date information regarding highway accidents on major roadways is presented in Table 1. These data are computed from information contained in Accidents and Rates on State Highways: 1986, prepared by the Colorado Department of Highways Staff Traffic and Safety Projects Branch.

Accident rates on the three roadways varies from a low of 1.13 per mile per year on U.S. Highway 24 to a high of 1.60 per mile per year on U.S. Highway 50. This reflects the more hazardous driving conditions in the Lower Arkansas Canyon where there are more deer crossings, curves, blindspots, rocks-on-the-road, and more congested traffic conditions. There is no current data for accidents on Chaffee County roads but the number of accidents on all four roads is believed to be low. Please refer to the following accident summary table.

236

1986 Accident Summary

Roadway (Mileage)	Number of Accidents* (1986)				Rate**
	PD	INJ	FAT	TOT	
U.S. 24 Leadville to Buena Vista (32)	17	17	2	36	1.13
U.S. 285 Johnson Village to Poncha Springs (21)	19	12	1	32	1.52
U.S. 50 Salida to Parkdale (47)	36	35	4	75	1.60

*
PD - Property Damage only
INJ - Injury
FAT - Fatality
Total - Total of all types of accidents

** - Total/Mile

4) Existing Rail Service

Rail service to the Upper Arkansas valley is provided by the Denver and Rio Grande Western Railroad line between Pueblo the the southeast and Dotsero (near Glenwood Springs) to the northwest. This single-track mainline is currently served by one freight train in each direction four days each week and two freight trains in each direction three days each week. No passenger service is provided.

5) Potential Future Rail Service

The Denver and Rio Grande Western Railroad (D&RG) does not currently envision future passenger service in the Upper Arkansas Valley. As a result of a recent merger between the D&RG and the Southern Pacific Railroad the number of freight trains using the Arkansas Valley could increase to six trains per day each way in the near future.

b. Access

The access situation for the Arkansas River is complicated by four major impediments: 1) private land, 2) the river itself, 3) topography, and (4) the railroad tracks. For the purpose of this document section and the access maps, "access" is defined as, "public land which is physically and legally capable of being reached by the public".

The access situation for the river and to each individual parcel of public land under consideration and to some sub-portions of parcels is depicted on the Realty & Access Maps. It should be noted that foot access on public land is unlimited except by ones desire and ability. The river itself is a legal (State Law) means of transportation by boat to public land. With this in mind every acre of public land under consideration has legal access of some type for the public to some degree. Although some parcels are accessed only by boat and others must be reached by use of foot trails, the majority of parcels are easily and legally accessible by vehicle.

8. Noise

Questions of noise on the Arkansas River are particularly related to the activity of river rafting. Noise from river rafters is already a public concern on the river. User preference surveys (Knopf and Lime, 1981; Knopf and Virden, 1987) indicate that 32.6 percent of all Segment 2 boaters and 16.3 percent of all Segment 4 boaters studies in 1987 felt that people shouting and yelling was a problem (up from 15.9 percent on Segment 2, 12.5 percent in Segment 4 in 1981). Private landowners adjacent to the river have also expressed concerns about boaters repeatedly disturbing their peace and quiet.

Reasons for those concerns may be seen in how boaters responded to possible reasons for floating the Arkansas. More than half of all Segment 4 boaters, commercial and private, indicated a desire to experience peace and calm, and the same was true for private boaters in Segment 2. But fewer than 50 percent of all commercial boater studied on Segment 2 were seeking peace and calm. Some of the higher Segment 2 concerns may be due to private-commercial boater conflicts over the noise issue.

Noise concerns are not limited to those occurring on-site. The USDA Forest Service indicates that parties of river rafters camping at National Forest campgrounds are particularly noisy and upset traditional family camping patterns at these sites. Indications are that this is already quite a problem.

9. Grazing Management

The affected environment includes portions of 24 grazing allotments, with 32 different grazing operators, and several tracts of land upon which no grazing authorization exists and are considered vacant public land. The most obvious use of public lands described in the affected environment by livestock is grazing and foraging. There are, however, additional uses of these public lands by livestock and they include at least nineteen watering points along the river where livestock obtain at least part of their daily water requirements and at least one livestock operator trails livestock from his private land across the river to his grazing allotment. There may be additional watering points and trailing routes not known at this time.

The foraging areas along the river generally consist of rocky sites with sparse or no vegetation to gently sloping or flat outwashes which are some of the higher producing forage areas in the general area. Forage species include, but are not limited to, blue grama, western wheatgrass, needle and thread, sand dropseed, and blue grass. The total area that is available for grazing in the affected environment versus total area of the grazing allotments is quite small (less than .1 percent). The amount of forage harvested in the area is likewise quite small but is no higher than 5 percent on any allotment.

Sixteen of the allotments contain an Allotment Management Plan which includes a grazing plan to protect and enhance resource values of the Allotment. All sixteen allotments are categorized as improved (I) which indicates that there are objectives to improve certain resource conditions somewhere on the allotment listed on the following table. None of the objectives in the AMPs dealt with the improvement of the riparian zone along the river. This is a result of a 1980 Grazing Environmental Impact Statement that concluded livestock grazing (or lack of) along the river did not have a significant impact on riparian vegetation or the fisheries of the river.

238

The number of livestock watering points along the river on public lands is estimated at 19. Additional points may exist but are unknown at this time. On a daily basis during the grazing season cattle have access to water through these points. The actual number of points used during an average year varies but probably averages about 12.

Access to the river by grazing livestock is controlled by standard barbed wire fence. These fences are built along the railroad right-of-way on the north and east and the U.S. Highway 50 and 24 right-of-ways on the south and west. Gaps in the fence permit cattle to drink from the river while preventing them from going further. These water gaps are usually fenced out into the river and when water levels rise, such as in late spring or early summer, these fences may extend a significant distance into the river. The number and location of these fences is unknown and varies from year-to-year.

At least one operator, in Segment 2, trails cattle from private across the river to his grazing allotment in the spring and back again in the fall. The number of head trailed is usually less than 50 and completed in less than two hours. Crossings are done when water levels in the river are low to allow easier and safer crossings.

Number of Grazing Allotments, Permittees and Allotment Catergorization by River Segment.

Segment	Number of Allotments	Number of Water Points	Number of Operators	Allotment Category		
				M	I	C
1	2	1	2	0	0	2
2	7	3	5	0	2	5
3	5*	6	6	0	5*	0
4	10*	9	21	0	10*	0
5	1	0	1	0	0	1
6	0	0	0	0	0	0
Total	24	19	35**	16	17	8

* Badger Creek Allotment is in both Segment 3 and 4.
** Tom Estes, Denzil Goodwin, and Everett Land & Cattle each have a permit in two segments.

10. Safety

Safety along the Arkansas River corridor has been a concern ever since the BLM began managing recreational use on public lands in 1962. In Segment 4, the major safety concern is the narrow, constricted canyon with a highway, the river, and a railroad all located in the bottom. As recreational use grew, the chance for car-pedestrian or train-pedestrian accidents grew

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because of the physical limitation of the canyon. The first place where this concern appeared was at the BLM Parkdale Recreation Site due to its close proximity to the highway. These same concerns surfaced at other heavily used sites where the available land between the highway and river is minute; i.e. Saltlick Recreation Site. Floods have also presented hazards along the canyon resulting in the posting of flashflood warning signs and camping restrictions being placed on several recreation sites which are located, out of necessity, within floodplains.

Safety of the recreationists and other people present along the Arkansas River is addressed in more detail in this chapter and in Chapter VII under the elements entitled Hazardous Wastes, Recreation, and Access and Transportation.

C. Resources Absent and Those Present But Unaffected

There are no known unique farmlands within the affected environment.

If the Proposed Action or any of the alternatives were implemented, there would be no impact to the following resources: climate, air quality, topography, geology, and alluvial valleys. In addition, none of the alternatives would impact the current functions of any floodplain or wetland in the area, nor would there be any developments on prime farmlands. None of the alternatives including the Proposed Action would affect the local hydrologic cycle, established water rights, or ground water conditions. There are presently no designated Areas of Critical Environmental Concern (ACEC) in the Affected Environment as identified in the current BLM Land Use Plan for this area (Royal Gorge Management Framework Plan, 1978).

Portions of the Arkansas River were included in the National Park Service's (NPS) Nationwide Rivers Inventory (NRI) of 1982. From the junction of Pine Creek and the Arkansas River downstream to Canon City, the river was identified as being a significant free flowing river. The 1982 list provided a primary database for further study for potential additions to the National Wild and Scenic Rivers (NW&SR) system.

The 1979 Royal Gorge Resource Area Management Framework Plan (MFP) decision was to "reject the recommendation to study the Arkansas River for inclusion into the National Wild and Scenic Rivers System, however, study the river for expanded recreational use under BLM management." The rationale given at that time was that "designation under the NW&SR Act as a recreational river could preclude any BLM site development along the river while the NPS is conducting studies."

More recent BLM guidance states that "All rivers on the NRI list... or river segments identified during the resource management planning process as potential additions to the system must be evaluated. The preferred process is to complete a river study in the RMP determining suitability."

The NW&SR study for the Upper Arkansas will be accomplished through the BLM's RMP process. The Royal Gorge RMP is scheduled to begin in 1989.

CHAPTER VII
ENVIRONMENTAL CONSEQUENCES

PROPOSED ACTION

A. Critical Elements

1. Threatened and Endangered Species

a. Wildlife

1) Bald Eagle

a. Impacts

Impacts to bald eagles will not be significant under the proposed action. No eagles nest in the Arkansas valley stopping here only to spend the winter. Recreational use is minimal along the river during this time.

b. Mitigation

Although no significant impacts to bald eagles are anticipated from the proposed action, it is essential that wintering roost sites be protected from destruction. Wintering eagles frequent the cottonwood-riparian community in Segments 1 and 2. During construction of recreation areas, it is vital that no large cottonwood trees be removed. Specific roost areas and roost trees are unknown so it is necessary to protect all areas.

2) Peregrine Falcons

a. Impacts

The peregrine falcon is often considered a wary, sensitive bird found only in wild, remote areas far from man's influence. In some areas, this is true but in many others it is not. Peregrine nest sites are found throughout the west in places where man is prevalent. Peregrines select areas where suitable cliff sites and prey are found, and appear unconcerned about closeness to man and his developments. Examples include the hacking of birds in major cities, heavily used national parks, and other areas where people are common. A pair is active in the Royal Gorge which thousands of tourists visit every day. The peregrine is very adaptable to a wide variety of situations.

Impacts to peregrines as a result of the proposal will be insignificant. Existing hack sites are located well away from the river corridor. Natural eyries that have established in the valley have done so despite human activities nearby. Birds from the hack sites and wild eyries will use the river canyon as hunting territory; and may frequent areas near the river.

Should peregrines establish new eyries in the river canyon, they will most likely be in areas of tall, inaccessible cliffs with adequate protection. Protection of these new eyries is critical.

b. Mitigation

If new falcon eyries become established in the Arkansas canyon that are in proximity to the river and recreation sites, they need protection. If sites are active, recreational use must be limited to the river itself with no hiking/climbing in the vicinity of the nests. Informational signs may be necessary in these areas along with ranger patrol to protect this endangered species.

3) Plants

a. Impacts

Negative impacts to the six species of plants described in the Affected Environment are difficult to assess due to the lack of site specific information such as distribution and abundance. Very little is known on five of the listed plants. The sixth species, Eriogonum brandegei, is found in the vicinity of Big Bend in Segment 2, within .25 mile of the proposed Big Bend Recreation Site. It is highly likely that this species occurs in the proposed development area. The level of use anticipated in the proposed action will impact the plants in this area. Should recreation use spread to the west of Highway 285, to the known populations, serious impacts could occur. Additional inventory for the plant may turn up other populations in this area.

The remaining five species of plants identified in Chapter 6 have been located in the river canyon. Three, Penstemon degeneri, Parthenium tetraneuris, and Mentzelia densa occur in areas that will be impacted by the proposed action. The level of human use anticipated along the river could very easily result in trampling of these plants impacting the populations. The two remaining species, Aquilegia chrysantha and Haplopappus fremontii occur in the area but appear to be fairly widespread. Adverse impacts to these two species is not anticipated.

b. Mitigation

Mitigating impacts to the plant species affected by the proposal must start with an adequate inventory to identify critical habitats of these species and their present distribution.

One species, Erigonum brandegei, is known to exist near the Big Bend recreation site on public lands. An inventory of this area may turn up plants in the development area. If plants are found, the significance of the population must be determined before any construction activities begin. Because this plant is found on public lands immediately west of Big Bend, it may be necessary to control public use on these lands to avoid impacts to the plant.

The three additional plants found in the canyon that would be impacted by the proposal have been located only in small, isolated populations. A complete inventory conducted by a qualified botanist familiar with rare plants is necessary to determine significance and location of additional populations. The Colorado Natural Area Program should be funded to complete this inventory. More specific mitigating measures cannot be formulated until this inventory is complete.

2. Wilderness

a. Impacts

There are no anticipated impacts on the McIntyre Hills WSA from the Proposed Action or any of the Alternatives. There are two actions that would impact management of the Browns Canyon WSA as presented in the Proposed Action. They are: (1) the proposal to acquire additional lands for public recreation use in the Ruby Mountain Area and development of a 40-site campground, and (2) the proposal to develop lunch stops for boaters within the Browns Canyon WSA.

1) Development of Ruby Mountain

Segment-specific actions proposed for Ruby Mountain include that "public access to the Brown's Canyon WSA will be maintained across public lands." In addition it is proposed, "to utilize and distribute BLM's brochures and information concerning the WSA." Development of Ruby Mountain could adversely impact the WSA by the increased use that would occur as a result of the development.

Vehicular trespass into the WSA or adverse actions created by the public could destroy some of the wilderness resources, as a result of increased use.

Conversely, additional public exposure to the WSA might create a deeper appreciation and interest in maintaining the irreplaceable wilderness values. Some of the user public might become more involved in demanding proper management to retain the wilderness values of the WSA.

2) Development of Lunch Stops in WSA

It is proposed to develop eight low-use sites with only temporary nonimpacting facilities. They are proposed to be developed consistent with Interim Management Policy and Guidelines for lands under wilderness review. Developed sites would attract users and considering the high use levels incorporated into this proposal, the amount of use that could potentially occur might have a negative impact on wilderness values not just at the lunch stops but on surrounding areas.

It is not anticipated that the other proposed actions in this alternative would affect wilderness values of the WSAs.

b. Mitigation

Proper visitor use management (like site rotation) and regular surveillance to ensure wilderness values are not being negatively affected should rectify the impacts discussed. With these mitigating measures in place, there would be no anticipated unavoidable adverse impacts.

243

3. Visual Resource Management

a. Impacts

All proposed development and consequent impacts upon the visual resources will occur in Class II VRM zones. As proposed, there is little potential for significant impact upon any of the four basic elements (color, line, form, and texture).

Visual contrasts could occur on a small scale, in regard to color and line, from construction of facilities, parking lots, and other structures.

Actually the final result of facility development could offer a positive impact by allowing the color, form, and texture to better blend with the natural environment.

b. Mitigation

Design of each site would follow the basic elements of the major visual attraction - The Arkansas River. The basic character of the river consists of smooth angled form and flowing continuous lines. Management objectives of Class II VRM zones would be followed.

Developments must not be evident in the landscape nor create contrasts that attract attention in order to be in compliance with VRM Class II zone prescriptions.

All site development plans must be approved by BLM in order to ascertain that the visual resource changes are compatible with management objectives.

Appropriate design would allow for all facilities to blend in with the adjoining landscape and not attract attention - so no long term impacts are anticipated. Some short-term, negative visual impacts would occur, but only during construction and rehabilitation of the disturbed area.

4. Socio-Economics

a. Social Values

1) Impacts

a) Population

Some population change will result from each alternative. The largest change will occur because of the proposed action. The magnitude of the change cannot be estimated given the constraints discussed in the economics section. No new social-economic data and models were developed for the ESA. But population change will follow employment changes by alternative. For example, if employment increases, then population may increase. It should be remembered that most of the employment impact will occur during the tourist season from the end of May to the beginning of September.

244

Where development occurs, in which county or city is unknown, there may be impacts on infrastructure demands (school, police, and health facilities) and the social structure in a county could be affected. Chaffee, Fremont, and Lake Counties are not accustomed to rapid growth but appear to be willing to plan for the infrastructure that may be needed to accommodate growth. Lake County in the last decade experienced a large drop in employment and income after the Amax mine closing and is looking at a transportation plan to encourage and facilitate growth.

Newcomers to the area may cause conflicts to arise with existing residents. Newcomers compete for existing housing and other facilities in an area.

b) Social Attitudes from Proposed Action and Alternatives

The impacts from the proposed action and alternatives tend to be segment and alternative specific and confined to residents and types of user groups. Any decision will usually produce trade-offs that have social advantages for some persons or groups and social disadvantages for others. For example, private rafters who would want to use a particular area may be upset if that area is closed to them while it is open to other user groups. On the other hand, those users who perceive that an alternative provides more areas for them will have a positive attitude toward that proposal.

Generalized statements about the alternatives can be made. The proposed action provides for the greatest growth in boating and lower levels of fishing opportunities. Thus, it could be expected that boating users and commercial rafting companies should prefer this alternative to fishermen whose overall use in the area is expected to decline.

The reduced development would be likely to be perceived as an adverse impact by some commercial outfitters and other local economic development interests. On the other hand, those opposed to increased growth might view the reduced development as better than the proposed action. Under Alternative A, fishing has the largest growth in fishing opportunities.

Alternative B expects lower numbers of fishing days than the proposed action. Thus, boaters and fishermen may both prefer other alternatives.

Some individuals feel that fees collected and returned to the areas is good for all alternatives while others may feel that they will not want to use the river because of the fees.

2) Mitigation

State Parks, in order to assess and monitor future impacts on the local communities in the ESA, should initiate a study to collect data to develop an economic demographic model to predict economic and population impacts to the local communities. This analysis will help ESA counties and communities plan for area growth.

State Parks should ensure economic assistance is provided to ESA counties and communities in order to minimize any impacts to the areas infrastructure, i.e. planning growth, maintenance and construction of roads, meetings, demands on school, police, and health facilities.

b. Economic Values

For the purpose of this analysis, it was assumed that the ESA area employment would grow at a 1.2 percent rate per year during the 1987-1997 period.

Moderately significant economic impacts are defined as having an average annual change of more than 2 percent per year in employment. Or a moderately significant impact is also defined as a change in employment of more than 10 percent from the no action alternative.

There are limitations to this analysis of economic impacts. The impacts to employment are for the ESA and are not allocated to a county, community, or school district. Only existing economic-demographic models were not developed for the ESA. The lack of an ESA site specific model, such as a gravity model, prevents this analysis from being made. In addition, lack of area data and models prevents an analysis of populations changes related to projected employment impacts. But it can be stated that given the high rates of unemployment in the ESA that it may be reasonable to expect the new employment will be filled by local residents and this factor would tend to not cause new people to move to the area.

Implementation of the proposed action or any of the alternatives, based on the above criteria would not cause moderately significant impacts. However, since impacts are not allocated to counties or local communities, it is impossible to say if certain areas may not reach the threshold of moderately to highly significant impacts. In addition, it should be remembered that much of the employment and visitor use occurs in the ESA during a three month period during the summer.

1) Impacts

A temporary peak construction workforce of perhaps as many as 23 individuals would be required in the first year of implementation. Most of the labor is likely to come from local hires. This workforce is for construction of segment improvements and highway and road improvements.

The Economic Study Area (ESA) Table presents local employment for 1997 for the proposed action. The impact of the proposed action and the cumulative impacts from the 1986 base are not significant. The percentage change from the No Action would be 4.8 for employment. The average annual percentage cumulative change from the 1986 base would be 1.5.

ECONOMIC STUDY AREA (ESA) EMPLOYMENT

Alternative	Total Employment	Change From No Action	Percent Change From No Action	Cumulative Impact Change From 1986 Baseline	Cumulative Average Annual Change From Baseline 1986
Year 1987					
ESA					
Proposed Action	27,549	1,259	+4.8	4,215	1.5
Alternative A	26,772	482	+1.8	3,438	1.3
Alternative B	26,666	376	+1.4	3,332	1.2
No Action	26,290	--	--	2,956	1.2

There would be a permanent parks workforce of perhaps as many as four people in the area and 14-15 people part time during the season. By 1997, $556,000 in fees would be collected in the area and would be returned to operate the park.

2) Impacts to National Values

See the following Total National Values Table. The increase in National Values from the No Action Alternative would be 255 percent or a 435 percent increase from the 1986 base.

TOTAL NATIONAL VALUES FOR RECREATION, HUNTING, AND FISHING ACTIVITIES BY ALTERNATIVE FOR ARKANSAS RIVER ESA 1/ FROM 1986 TO 1997

	Total of National Values	Change from No Action	Percent Change From No Action
ESA			
Proposed Action	$8,124,706	+4,934,915	255.0
Alternative A	5,010,792	+1,821,001	157.1
Alternative B	4,470,976	+1,281,185	140.2
No Action	3,189,791	---	---

1/ Includes boating, fishing, and bighorn sheep activities.

3) Impacts to ESA motels/hotels, and campgrounds

See recreation section for discussion of impacts to area campgrounds.

Most motels and hotels in the area tend to be at capacity on weekends and during the rafting season, and this trend is expected to continue. The number of visitors to the area who want hotel or motel accommodations will increase under all alternatives. As this trend continues, there will be a tendency for room rates to increase and new motels or hotels to be built. How many new motels or hotels will be built to meet this demand is unknown. Since the Proposed Action has the greatest projection of increased use, then it is reasonable to expect that the proposed action will have the largest effect on rates and for new accommodations to be built. But each alternative including the no action will likely cause some increase in rates and new accommodations to be built.

5. Cultural and Paleontological Resources

a. Cultural Resources

1) Proposed Action and All Alternatives

a) Impacts

Any increased use of the Arkansas River and corridor can only result in deterioration of cultural resource quality. Collecting and looting would increase in those locations already being vandalized and previously unknown sites would be similarly affected as they are discovered. Even "benign" interest and curiosity could result in adverse impacts to fragile stratigraphy and to the integrity of historic structures.

According to the Congressional Record, SB7908 - (Senate, 1988), once a site has been disturbed "the entire sense of its historical development is disrupted and it becomes impossible to research the site by any standard Archaeological method."

Under any alternative, there are two areas of known concern:

i. Browns Canyon - This portion of the corridor was identified in the Royal Gorge MFP as possibly qualifying as a National Archaeological District and has been the object of an on-going, although low priority inventory.

ii. DeReemer Forts - These structural remains of unique Colorado railroad history would undoubtedly qualify for the National Register of Historic Places (NRHP) and are currently under study by the Royal Gorge Resource Area.

b) Mitigation

Implementation of the Proposed Action, Alternative A or B will require careful inventory of those areas subject to increased use and physical disturbance Mitigation of adverse impacts to cultural resources discovered or previously known would have to be completed according to Federal prescriptions before those actions can be initiated. Alternative C, "No Action", presupposes current trends, and activities would be monitored on a case-by-case basis as required by in-house support.

It is possible that an aggressive, public education program might serve to alleviate some of the adverse impacts. Cultural and historic resources must be protected from vandalism and looting.

248

b. Paleontology

1) Impacts - Proposed Action and Alternatives A and B

The greatest potential for disturbance to class 1 paleontological resources would be at the following proposed development sites: Rincon and Parkdale South under the proposed alternative and alternatives a and b.

A potential disturbance to class 1 paleontological resources could occur at Alkali Creek under Alternatives a and b.

Additional disturbances proposed in class 1 areas would need to be evaluated prior to construction activities.

2) Mitigation

An evaluation of paleontological resources would be made prior to surface disturbing areas in class 1 areas. Any discovered resources made during the evaluation could be fully protected or mitigated as required by applicable statute.

6. Water Quality

a. Impacts

None of the alternatives would change existing chemical water quality or the amount of sediment and turbidity.

Runoff from parking lots (proposed in all of the alternatives) would contain some hydrocarbons and associated heavy metals that result from oil and grease drips from motor vehicles. Some of this runoff would reach the river and pollute the water. However, even under the most intensive management scenario, this pollution is not expected to interfere with existing uses of the water, or to exceed water quality standards.

The amount of biological pollution resulting from human waste being deposited along the river is unknown. However, sanitation facilities proposed in all of the alternatives would reduce existing biological water pollution caused by recreation use on the river.

b. Mitigation

None.

7. Hazardous Waste

a. Impacts

Severity of the impact caused by a hazardous materials incident will depend on the location of the spill, type of chemical involved in the spill, human and animal occupancy at the time, and site of the accident.

The potential for a major disaster along the river will be greatly increased as traffic and human occupancy increases. Implementation of the proposed action and all alternatives will increase the human occupancy and traffic on the river and the highways near the river. The merger of the Denver and Rio Grande Railroad with Southern Pacific Railroad could increase the number of freight trains using the railroad from one or two per day each direction to six per day each direction. This increase in number of trains per day would increase the potential for an accident along the river and possibly raise the total amount of hazardous materials being transported along the river. The combination of these changes could greatly increase the severity of the impact caused by a hazardous material spill, with human occupancy being the most important factor.

Some types of spill could be more hazardous along the river than in other areas. For example, spills that generate toxic or lethal gases could be more damaging within canyon walls where the gases cannot be allowed to spread or where an inversion is likely to occur, trapping gases and holding them down among the human users of the river corridor.

Impacts caused by human waste should actually be reduced according to the Proposed Action and all alternatives, since the amount of sanitation facilities should actually increase.

b. Mitigation

Mitigation measures covered in the "Access and Transportation" section of Environmental Consequences would also apply to the transport of hazardous materials along the Arkansas River. Traffic on the highways and access onto and across the highways by vehicles and pedestrians must be tightly controlled.

In addition to mitigation measures discussed in "Access and Transportation", other considerations should be made by the State Highway Department, county and local governments concerning transport of hazardous materials on their roads and highways and by the railroad authorities on their network. Possible safety measures to be taken during peak traffic and human occupancy along the river would be:

1) Limit transport of hazardous materials to periods of the day when traffic and human occupancy are lightest, such as 7 p.m. to 7 a.m.

2) Require lead vehicles with flashers and HAZARDOUS MATERIALS signs ahead of vehicles transporting hazardous substances.

3) Divert all vehicles carrying hazardous materials to a different route.

4) Require lead or inspection equipment to travel railroad tracks ahead of trains to inspect the tracks and alert the train of hazards.

Trains or trucks carrying hazardous materials are required to have an attached placard when carrying hazardous materials over a certain quantity. This makes enforcement of restrictions easier.

B. Other Affected Resources

1. Realty

a. Impacts

Withdrawal and classification establish a legal right to the holder for a specific use of public land. This valid existing right would be protected by the Land Use/Realty Objective, and any authorization (including a CMA or R&PP Lease) on the same land would be made subject to the withdrawal or classification. The authorization is therefore a somewhat limited interest in the land because of existing encumbrances.

Any development under a withdrawal or classification would be subject to public input. Therefore, if a Colorado State Recreation Area were created, public interest would be higher, making it more difficult to eventually develop the site. See "Key Sites Proposed for Lease Under the Recreation and Public Purposes Act" table in Illustration V-8 and the Affected Environment, Chapter VI.

Acquisitions are provided for by the Land Use/Realty Objective, "acquire additional parcels through exchange". BLM realty expenditures to process exchange proposals would continue or increase. State completed exchanges would create more complex land ownership patterns and management. Acquisition of private land would have varied impacts on the private landowners. They would lose their property but the compensation should be acceptable. Adjacent landowners could be negatively affected should a recreation site be developed. The properties listed in the affected environment may continue to be identified and pursued for acquisition.

Unauthorized use investigation and resolution would be positively affected. The additional river rangers anticipated would both prevent and discover trespass. Identification is then improved and resolution process could possibly be facilitated.

Survey and boundary disputes are going to increase according to the proposal. Many more property lines would need to be found, established, and signed. Agreements with private and adjacent landowners would be necessary to do some survey work and to post signs (when on private property where trespass has been a problem).

2) Mitigation Measures

Out right purchases of lands within the corridor should be provided for in the Land Use/Realty goal under the Proposed Action; not just exchange.

2. Energy and Mineral Resources

a. Impacts

1) Suction Dredging

Closer monitoring of this activity might result because of additional river rangers in the area. As river rangers become aware of regulations and management practices controlling this activity, reports of noncompliance to the Army Corps and BLM may increase resulting in improved management of this activity, refer to Appendix I. This net improvement over the existing situation would result because of the increased vigilance along the river. This improvement might not be significantly different than any of the other alternatives as all alternatives would result in an increase of manpower along the river.

2) Other Mineral Development

a) Aggregate

It appears that two scenarios are possible in relation to aggregate production. Either the overall potential for mineral development will tend to decrease particularly in those areas with recreational developments, or an increased demand for aggregate would occur because of construction projects associated with the recreational development. In general, a decrease would not result from any regulatory or policy changes but could result from the impression that the corridor is devoted primarily to recreational use although an actual decrease in mineral development would occur in those areas leased under the Recreation and Public Purposes Act. All areas have some potential for aggregate development, although the potential would be low for most areas along the Arkansas. Two areas along the Arkansas, which have moderate potentials for development, include subsections b and c of Segment 1 and subsection b of Segment 4. These would be the areas that would most likely experience either the decrease or increase as previously mentioned.

b) Placer Mining

Although placer mining has occurred in the past, no activity other than exploration has occurred for the past few decades. Based on the amount of environmental concerns over this type of activity, it is anticipated that any activity would be outside the river corridor although a possibility exists for a small scale operation in a few locations. Any mining would most likely occur in segment 1. The selection of this alternative would not have any significant impact on this activity.

3) Mining Claims

There would be no impact on the right to locate mining claims other than in those areas withdrawn from mineral entry such as an R&PP lease. These areas would be very limited in scope, therefore this impact would not be significant to the overall program. Creation of additional withdrawals and lifting or continuation of existing withdrawals could also have a more impact on this activity although no proposals are currently pending.

b. Mitigation

1) Suction Dredging

No mitigation would be required.

2) Other Mineral Development and Mining Claims

A mineral report(s) assessing the mineral potential of the area would be required prior to any lands action that would adversely impact mineral development.

3) Mining Claims

A mineral report(s) assessing the mineral potential of the area would be required prior to any lands action that would adversely impact the ability to locate mining claims.

3. Recreation

a. Impacts

This narrative addresses impacts of the Management and Development Proposal in terms of the same three components which were used to describe the affected environment: recreation resources, recreation visitor use, and recreation management--of the resources, the use, and the facilities. This also describes impacts on the overall recreational character of the river and its environs (i.e., physical, social, and managerial) under the same headings.

1) Recreation Resources (Physical Characteristics)

a) Objectives

i. Segment 1: Leadville to Buena Vista

On Segment 1, Recreation character class prescriptions call for a change in the character of the land and facilities from Roaded Open Country to Highway Rural (See Chapter 1 for a complete description of the character classes). This change results from modifying the landscape with more facilities to accommodate greater numbers of users. Indications are that a number of users, particularly private boaters have enjoyed the current semiremote character, especially of The Numbers. If the proposed changes are implemented, displaced users would have to seek elsewhere to find equivalent outanding whitewater recreation in their more preferred Roaded Open Country setting. Adverse impacts are anticipated (see Illustration VII-1).

On the other hand, it appears that commercial boaters, having indicated their desire to make more use of this segment, would benefit from the proposed change in physical recreation character.

ii. Segment 2: Buena Vista to Salida

Management objectives concerning the physical character of Segment 2 prescribe that the river corridor is to be managed in the Roaded Open Country character class. However, this objective would not be achieved because implementing actions would provide facilities of a size and intensity that would change the present Roaded Open Country character of the land to Highway Rural (see Illustration VII-2). For example, 10 lunch sites are planned in the short distance from Railroad Bridge to Hecla Junction, each to accommodate up

253

ADVERSE RECREATION IMPACTS

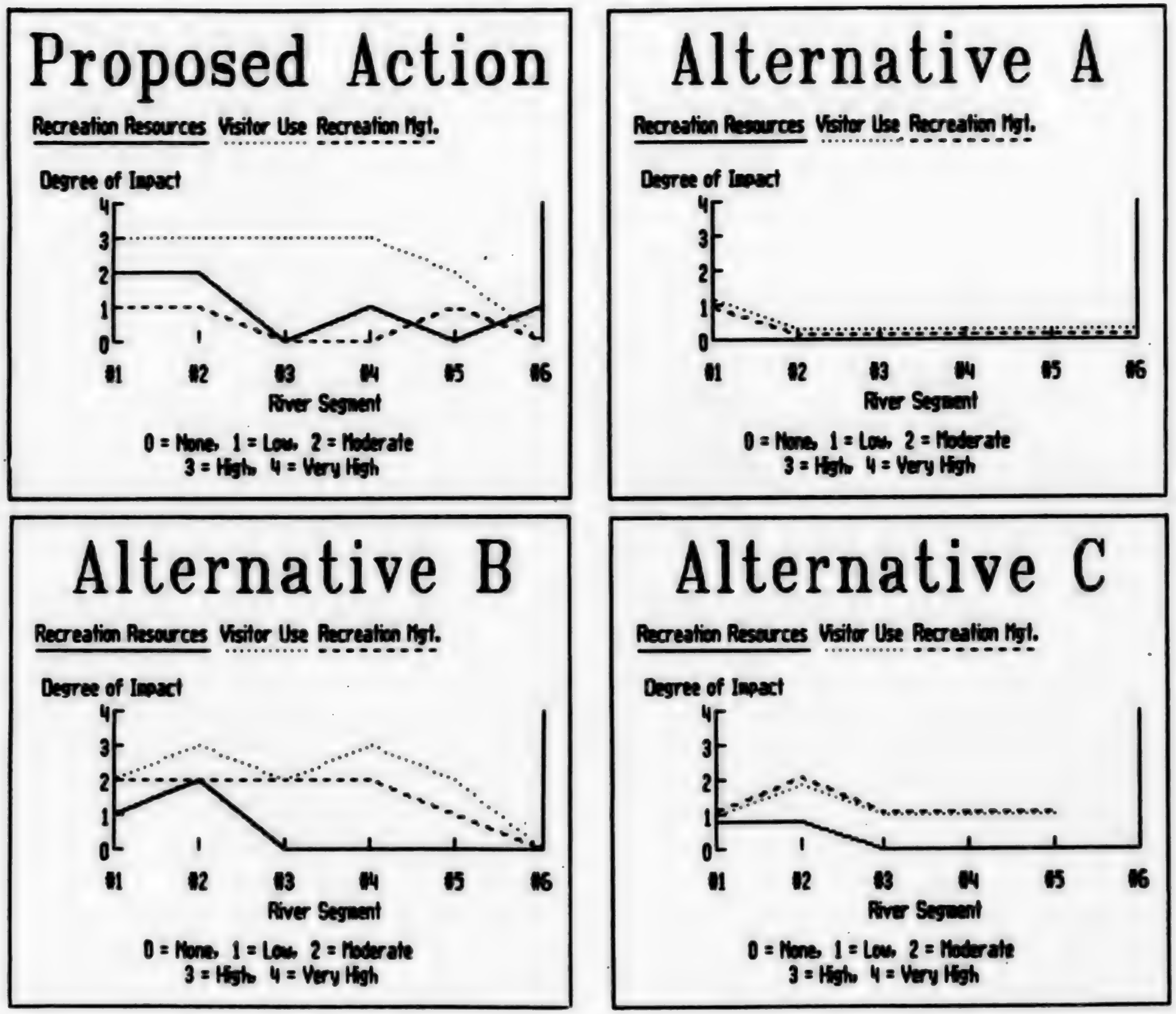

ILLUSTRATION VII-1

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ILLUSTRATION VII-2

RECREATION CHARACTER CLASS CHANGES UNDER THE PROPOSAL *
For the Arkansas River: 1997

River Segment		Back Country	Walk -In	Semi-Primitive Motorized	Roaded Open Country	Highway Rural	Developed Urban
#1: Leadville to Buena Vista	Along River Corridor				P → S → M →	Ⓟ Ⓢ Ⓜ	
	At Intensively Developed Recreation Sites					P S M	
#2: Buena Vista to Salida	Along River Corridor				P → M →	◇P S ◇M	
	At Intensively Developed Recreation Sites				P → M →	Ⓟ S → Ⓜ	◇S
#3: Salida to Vallie Bridge	Along River Corridor					P S M	
	At Intensively Developed Recreation Sites					P S M	
#4: Vallie Bridge to Parkdale	Along River Corridor					P S M	
	At Intensively Developed Recreation Sites					P → S → M →	Ⓟ Ⓢ Ⓜ
#5: Parkdale to Canon City	Along River Corridor				P S → M	◇S	
	At Intensively Developed RecreationSites				P → S → M →	Ⓟ → Ⓜ →	◇P Ⓢ ◇M
#6: Canon City to Pueblo Reservoir	Along River Corridor				P → S M	Ⓟ	
	At Intensively Developed Recreation Sites				P S M		

* Legend:
P = Physical Characteristics (Land & Facilities)
S = Social Characteristics (Visitors & Their Evidence)
M = Managerial Characteristics (Management of the Land and Visitors)

P S M = Existing characteristics.
Ⓟ Ⓢ Ⓜ = Changes prescribed by the Proposal.
◇P ◇S ◇M = Additional unplanned changes resulting from the Proposal.

255

to 50 people at one time. Development of these sites would require a level of facility development that would change the existing landscape that retains its natural appearance to one which is substantially modified with several facilities. User preference data indicate that the average Segment 2 user feels neutral about the physical character of Open Country areas but expresses slight to moderate dislike for that of Highway Rural areas.

Of the two most intensively-used Segments (2 and 4), this one is the most remote and most popular. Under the Proposed Action the area would lose some of its highly valued natural and undeveloped character. While the river is by no means a back country or even a walk-in resource--and there are several other rivers in the state and region offering far more resource-dependent river recreation, available data indicate that the average Segment 2 user still does not like the more facility-dependent setting as well as what now exists. At the same time, commercial outfitting and other representatives on DPOR's Advisory Committee would prefer this anticipated change in recreation character in order to accommodate more commercial use.

Objectives for the land and facilities at intensively developed sites are to change their existing Roaded Open Country character to Highway Rural to accommodate higher design capacities. For example, persons-at-one-time or PAOT capacity of Hecla Junction would be 357 people. The resulting landscape would be substantially modified at these sites. The effect on users would be slightly adverse (see above).

iii. Segment 3: Salida to Vallie Bridge

No adverse impacts are anticipated to the area's physical recreation resources because the proposal would maintain the existing Highway Rural character of the land and of facilities.

iv. Segment 4: Vallie Bridge to Parkdale

Management objectives for the land and facilities of the river corridor are to maintain the Highway Rural character class. User preference data indicate that the average boater on this segment has only a slight dislike for physical settings in the Highway Rural class.

The proposal prescribes Developed Urban objectives for intensively developed sites in order to provide more numerous facilities to accommodate intensive use. These facilities could dominate the landscape. Boaters would feel adverse to this, since they have a stronger dislike for the more accessible Developed Urban class. However the social objective for these sites would also be Developed Urban (see Visitor Use Section of this narrative).

In contrast to the boaters, shoreline users--especially sightseers, picnickers, fishermen, and campers--indicate that they slightly prefer physical settings in a Highway Rural character class and feel neutral about Developed Urban settings.

v. Segment 5: Parkdale to Canon City

The Highway Rural setting prescribed for the land and facilities at intensively developed sites in Segment 5 would likely be exceeded, resulting in a Developed Urban physical setting, because of the intensive nature of facility developments proposed at Parkdale. All other things being equal, that change is likely to have no adverse effect on users (e.g., the prescribed objective for the social character of the sites is already Developed Urban).

vi. Segment 6: Canon City to Pueblo Reservoir

The Highway Rural physical character class prescribed for the land and facilities in the river corridor would not be needed, neither to accommodate types and volumes of visitor use proposed for this segment nor to allow the proposed level of facility development to occur. On the contrary, the remote and relatively isolated character of the recreation opportunities this lower river segment offers would be adversely affected by such a change.

b) Facilities

In general, the beneficial effects on the land and resources stemming from facility development in all segments would be sizeable, given even current use levels and including projected increases. Adverse changes would occur in the character of the land and facilities that the average user is looking for (see Appendix G). However, these facilities would help resolve most of the resource damage problems now being observed by users, especially litter/trash/garbage pollution (both Segments 2 and 4), soil compaction and erosion (especially Segment 2), and vegetation destruction (particularly on Segment 4).

2) Visitor Use (Social Characteristics)

On all Segments except 6, adverse effects would include increased crowding and associated user conflicts, especially between commercial and private boaters, and between boaters and fishermen. Separate launch windows for commercial and private boaters would only help alleviate some of the problems. For example, launch windows alone would not ensure a boat-free period to avoid conflicts with fishing use, since boats may stay on the river for an undetermined period of time. In addition, all off-season river corridor carrying capacity reductions come too late each year to benefit many fishermen.

a) Objectives

i. Segment 1: Leadville to Buena Vista

Management objectives for this segment are to change the existing social characteristics from Roaded Open Country to Highway Rural, providing for a substantial increase in recreation use, especially for boating (see Illustration VII-3). On this outstanding world class whitewater segment, a number of users have expressed concern about these use increases. Conflicts would occur both from the actual physical displacement of private boaters by commercial outfitters, and in the disruption of kayaking use of pools and

ILLUSTRATION VII-3

Total Boating Projections
Proposed Action 1997
Numbers of Visits

River Segment	5/15-8/1	8/1-8/14	8/15 - LD*	LD - 5/1	Total
#1	90,592	10,944	13,072	3,557	118,165
#2	112,369	14,474	17,600	4,790	149,233
#3	40,230	1,296	1,548	421	43,495
#4	180,290	21,780	15,158	4,125	221,353
#5	40,230	4,860	5,805	1,580	52,475
#6	13,410	1,620	1,935	527	17,492
	477,121	54,974	55,118	15,000	602,213

* Note LD = Labor Day

Alternative A 1997

River Segment	5/15-7/14	7/15 - LD	LD - 5/14	Total
#1	35,906	14,741	2,665	53,312
#2	72,275	31,295	5,657	109,227
#3	24,858	0	0	24,858
#4	111,401	9,367	1,693	122,461
#5	24,858	10,288	1,860	37,006
#6	8,286	3,455	625	12,366
	277,584	69,146	12,500	359,230

Alternative B 1997 = 323,307

Alternative C 1997 = 215,340

Estimates for Base Year 1989 = 145,750
Estimates for Current Year 1988 = 139,000
Estimates for Last Recorded Year 1987 = 132,200

riffles by the passage of commercial rafts. While the capability of this river to provide for fishing is already impacted by pollution from mine tailings around Leadville, whatever fishing potentials exist would be adversely affected by the passage of the large number of watercraft within this relatively small stream channel.

Annual boating use on this segment is projected at 118,165 visits by 1997 compared to an estimated 3,900 visits in 1987. This would represent a thirty-fold increase in boating use alone, and it illustrates how the entire social character of this segment would radically change (see Illustration VII-4). The greatest increase within this segment would be within subsection C, according to DPOR. Nevertheless, corresponding opportunities to experience solitude, challenging whitewater uninterrupted by others, and other similar experiences would be greatly reduced, perhaps even lost.

ii. Segment 2: Buena Vista to Salida

The significance of the proposal's effect on the social character of the river is underscored by the degree of user concern already being expressed about numbers of people on the river within this segment (Knopf and Lime, 1981; Knopf and Virden, 1987) (see Recreation section of Chapter VI, Affected Environment). First, in terms of numbers of people seen outside the users' own group, about one third of all 1987 boaters observed in excess of 75 people at their put-ins, while on the river, and at take-outs. In contrast, only about one tenth of all users saw fewer than 10 people at these locations. Secondly, more than one-half of all private boaters on this segment indicated that one of their motivations for coming to this segment was to escape crowds. Thirdly, more than one-half of all 1987 boaters, commercial and private, felt that there were too many people on the river and at take-outs. Somewhat fewer than half, both private and commercial, felt the same way about the numbers of people seen at put-ins.

Management objectives for the social character of the Segment 2 river corridor are to manage it under the Highway Rural prescription. Prescribed capacities for up to 500 people at one time at all Brown Canyon lunch stops combined indicates the maximum number of people that could be accommodated. Projected annual boating use on this segment in 1997 is 149,233 visits compared to an estimated 66,000 visits sin 1987. This would represent slightly over a two-fold increase.

The average user generally feels neutral about the social character of the Roaded Open Country prescription in this area, there is a slight to moderate dislike for use as intensive as Highway Rural. Given the already existing high degree of user concern over on-river crowding in 1987 (more than half of all boaters, both commercial and private), adverse effects from the large use increases proposed are expected. Since the proposal contains no limits on group size, additional impacts are expected from large groups involving several boats each. This is especially so since half of all users studied in 1987 already support limiting the number of people per group allowed on the river; only one-fourth oppose it (the remaining one-fourth feel neutral).

259

ILLUSTRATION VII-4

BOATING USE INCREASES FOR 1997 COMPARED TO 1987

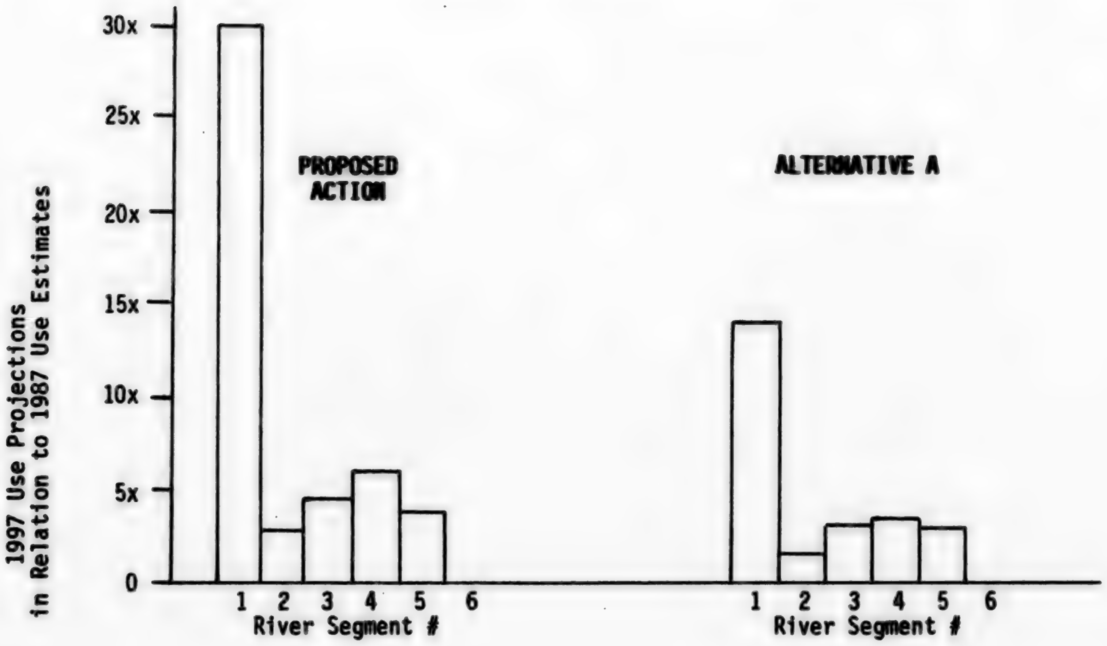
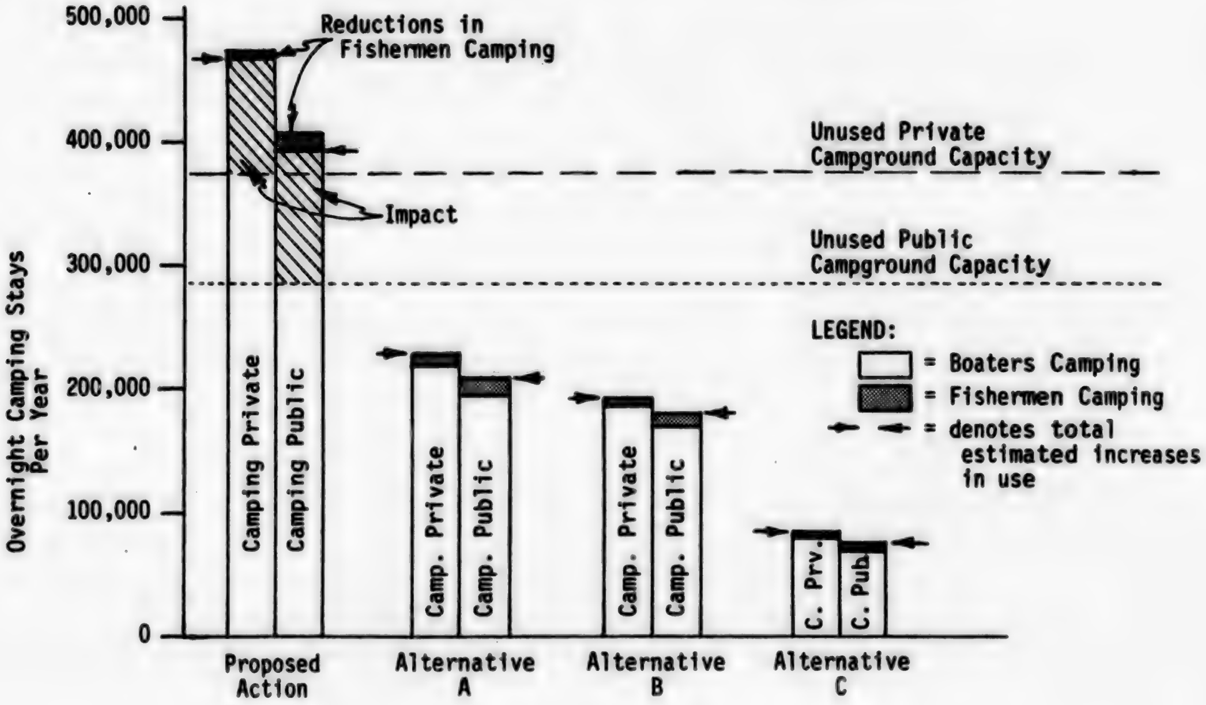


ILLUSTRATION VII-5

ESTIMATES OF RIVER-RELATED CAMPING INCREASES



Highway Rural social characteristics are also prescribed for intensively developed sites. However, prescribed persons-at-one-time (PAOT) capacities for the larger intensively developed sites are so high that these areas would end up taking on a Developed Urban character--a high concentration of users and large numbers of people within the area and nearby, evidence of other users being dominant. For example, the design capacity of the Ruby Mountain site would be 255 PAOT, and that of Hecla Junction would be 357. Most boaters would perceive these numbers as being excessive. Even at 1987 use levels, where such numbers were seldom reached, more than half of both commercial and private boaters felt there were too many people at take-outs as well as on the river itself.

Even more boaters are expected to feel crowded under the proposal with a 226 percent use increase projected by 1997. The adverse effects of those increased use levels would be partly mitigated by planned actions to spread the use out, both geographically (by developing additional boater access areas) and diurnally (by affecting the spacing of boat launches). Nevertheless, crowding is expected to increase.

iii Segment 3: Salida to Vallie Bridge

The prescribed Highway Rural social character would maintain existing conditions. Nevertheless, a four-fold increase in use is projected by 1997. This would increase conflicts substantially, particularly between fishermen and boaters. The effect on fishermen would be especially adverse because this is one of the most important fishing resources on the river.

iv. Segment 4: Vallie Bridge to Parkdale

The extent of the proposal's effect on the social character of the river is clarified by the degree of user concern already being expressed (Knopf and Lime, 1981; Knopf and Virden, 1987) about numbers of people on the river within this segment. First, in terms of numbers of people seen, fewer people outside the users' own group are seen on this segment than on Segment 2. From one-third to one-half the proportion of Segment 2 users saw as many as 75 people at their put-ins, take-outs, and while on the river in Segment 4. Instead, most people saw anywhere from 1 to 25 people at these locations. Secondly, also by way of contrast with Segment 2, more than half of 1987 boaters surveyed on this segment indicated that the desire to meet new people was a significant motivator for floating this segment (this motive was not present on Segment 2). Thirdly, only about one-fourth of all commercial users felt there were too many people at put-ins, take-outs, and while on the river (compared to about half of Segment 2 users who felt that way). From one-third to one-half of the private boaters felt there were too many other people at those locations.

Management objectives for the social character of the Segment 4 river corridor prescribe the Highway Rural character class, which should be achievable. The average user feels neutral to having only a slight dislike for the Highway Rural managerial setting as well as for both the more remote Roaded Open Country and the more accessible Developed Urban character classes. Compared to boaters who felt some dislike for the Highway Rural character class, shoreline users--especially including sightseers, picnickers, fishermen, and campers--felt neutral.

Yet with a six-fold increase in use projected by 1997, perceptions of crowding are expected to increase. The adverse effects of those increased use levels would be partly alleviated by planned actions to spread the use out, both geographically (by developing additional boater access areas) and diurnally (by affecting the spacing of boat launches). Nevertheless, the sense of crowding expected to occur and the number of visitors expected to experience it would increase. Adverse affects on fishermen would result from running primary boating season capacities through August 15 and as late as Labor Day.

Objectives prescribe a change in social characteristics from Highway Rural to Developed Urban. Perceptions of crowding indicate that only about one-fifth of all commercial users and somewhat over one-third of all private users now feel crowded. Once again, the intensive nature of planned facility developments and of accompanying visitor management actions should help alleviate the crowding problem, but as for the river corridor itself, the six-fold increase in use by 1997 would be difficult to accommodate at ingress and egress points where use is concentrated, without introducing an additional measure of crowding, especially given users' present concerns.

v. Segment 5: Parkdale to Canon City

Management objectives prescribe Roaded Open Country social characteristics for the river corridor, which is what presently exists. The projected three and one-half fold increase in boating use by 1997 would very likely change overall social characteristics of the river corridor to Highway Rural. The stated management objectives for the corridor itself would not be achieved. Crowding would then become an issue, especially since challenge and risk motives are such an integral part of the overall boating experience in the Royal Gorge. Those motives are related to remoteness which would decrease with increases in use. User safety problems might also increase with the much higher use volumes proposed.

(6) Segment 6: Canon City to Pueblo Reservoir

Objectives are to manage the social character of the river corridor under the Roaded Open Country prescription, which is what presently exists (though some of the more isolated subsections may still be only semi-primitive motorized). While an undetermined amount of use is presently occurring, nearly all of the projected 1997 annual use of 17,492 visits would be new. Still, management objectives should be met, and no adverse impacts would be anticipated.

b) Other Activities

i. Fishing

Impacts to fishermen can be defined in terms of sociological carrying capacity of the river. It is the level of use that is compatible with the user's definition of a particular recreational activity (Schoolmaster, 1986). Moeller and Engelken (1972) reported that water quality, natural beauty, and privacy while fishing were rated as the most important factors influencing fishing enjoyment.

Schoolmaster (1986) investigated differences in bank and float-angler perceptions of use levels and satisfaction on the Madison River in Montana. He determined that bank anglers are particularly sensitive to the presence of commercial outfitters because the latter cater to a largely out-of-state clientele. In addition, bank anglers maintained that unlimited boating access has been responsible for a decline in the fisheries and that the presence of boats and noise produced by occupants interfered with bank angler's enjoyment. This competition represents a multiple use type of problem and illustrates the importance of social issues such as crowding, use restrictions, and user satisfaction to fishery management.

The fundamental components of the problems between river users and fishermen on the river are the excessive number and distribution of users, conflicting objectives among various types of users, and the behavior of users.

Impacts to fishermen from the proposal will be substantial. Projected fishermen user days are lowest in this alternative (see Illustration VII-6). Boating use in Segment 1 increases thirtyfold which would force many fishermen off the river. In Segment 2, fisherman use would also drop, although less substantially. This would be due to the present tolerance of boating by fishermen using this segment. Heavy boating use has occurred for several years in Segment 2.

Impacts from the proposal on fishing would also be substantial on Segments 3 and 4. Over 60 percent of total fisherman user days on the entire river corridor occur in these segments, and the fourfold increase in boating use through the month of July on Segment 3 would increasingly disrupt fishing use. The proposed sixfold boating increase would extend even longer, through mid-August. Impacts would be experienced for the greatest period of time on subsection C of Segment 4 where peak boating use would continue through Labor Day.

The proposal carves out the largest time window for fishermen on Segment 3; yet even during the prime fishing month of August, intensive enough boating use is proposed that fishing use would be disrupted, on the average, once every 6 minutes. The prescribed boating use levels on Segments 3 and 4 would be so intensive that fishing activity could seldom occur free of conflict with boats, even though these segments presently have the highest capability for recreational fishing of any in the entire river corridor.

Impacts to fishermen would be somewhat less in Segments 5 and 6 because of relatively low fishing use and less boating projected.

ii. Camping

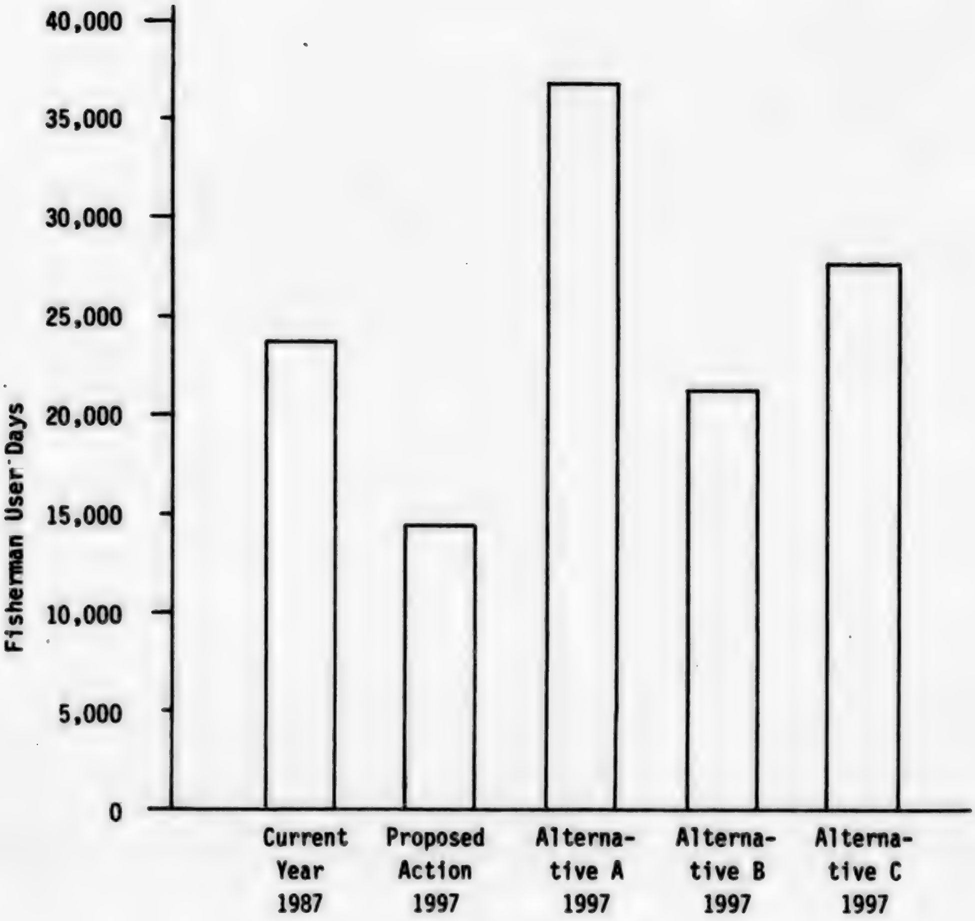
- Boater Camping

Boater camping projections are based on the two most heavily-used segments, 2 and 4. Projected increases in Segment 2 boating use equals 83,233 visits (149,233 in 1997 minus 66,000 in 1987), and that for Segment 4 totals 184,353 visits (221,353 in 1997 minus 37,000 in 1987). Those increases total 267,586 boating visits annually.

ILLUSTRATION VII-6

PROJECTED FISHERMAN USER DAYS BY ALTERNATIVE

Segment	Current 1987	Proposal 1997	Alternative A 1997	Alternative B 1997	Alternative C 1997
1A	1,200	1,440	1,440	1,220	1,440
1B	2,200	1,100	1,650	1,320	2,640
1C	880	440	660	528	1,056
2	3,900	2,925	5,850	3,680	6,216
3	5,180	2,590	10,360	3,500	6,216
4A	1,750	1,313	3,500	1,900	2,100
4B	3,910	2,580	7,038	4,300	4,692
4C	3,510	1,404	5,265	3,800	4,212
5	400	300	600	450	480
6	400	300	600	450	480
Totals	23,330	14,392	36,963	21,148	27,576



Given camping participation rates from the 1987 user study, total private camping increases would equal 34,874 overnight camping stays attributable to Segment 2 and 232,838 attributable to Segment 4 for a total increase of 267,712 private overnight camping stays annually. (An overnight camping stay is defined here as one person camping for one night). Assuming the same rate of private camping on the other remaining segments occurs as on Segment 2 and 4 combined, one may project an additional 202,524 private overnight camping stays from the remaining river segments. This would yield a total private camping increase of 470,236 overnight camping stays annually by the year 1997. Note that the reason why projected camping nights exceed total projected boating visits is that, while not all boaters camped, the average boater camped more than one night.

Based on these projections, volumes would exceed the current unused private campground capacity of 372,868 overnight camping stays by 97,368 or 26.1 percent. However, the private campground industry estimates that once existing facilities are occupied to capacity, this capacity could be tripled using the existing acreage owned by industry members. No adverse impact is anticipated.

From the perspective of public campgrounds, there is an existing unused season capacity of 282,570 annual overnight camping stays on 32 Forest Service campgrounds, where the bulk of public camping in the valley occurs. This is based on the Forest Service's 50 percent of design capacity occupancy rate where peak season days are generally filled up. The projected annual increase in boater camping is 79,155 overnight camping stays from Segment 2 and 151,354 overnight camping stays from Segment 4, for a total annual increase of 230,509. An estimated annual 174,380 additional public overnight camping stays from boaters on Segments 1,3,5 and 6 could be added to projected increases for Segments 2 and 4 for a total boating induced increase in public overnight camping stays of 404,889 each year by 1997. This use volume would exceed available public campground capacity by 43.3 percent.

This projected increase exceeds the remaining unused Forest Service campground capacity (to get to 50 percent of design) by 122,314 overnight camping stays or 43.3 percent. The Forest Service has no current plans to accommodate projected increases in boating use of this magnitude. Public camping increases, which would be accommodated at the single BLM site, are negligible when compared to the total need.

- Other Shoreline Camping

Projected increases in camping previously identified only include those related to boating. Increases in camping related to other recreation activities, such as fishing, would be over and above these amounts. In the absence of user data depicting camping participation rates or growth rate projections for these users, it is difficult to project specific increases. However, the known rates at which Segment 4 shoreline users camped in 1987 may be applied to fishing use projections for an estimate of additional fishing related camping use, assuming the same camping rates across all segments.

Following this approach, of the total 8,589 fishing user day decrease projected for 1997 (effects of the proposal are expected to have a net decrease on fishing use), 48.8 percent would have stayed overnight: 28 percent in public campgrounds, 7.3 percent in private campgrounds, and the remainder in commercial lodging facilities. Applying weighting factors for the number of nights stayed, there would be a projected loss of 1,662 annual private overnight camping stays by fishermen and a loss of 7,160 annual public overnight camping stays by fishermen.

An undetermined number of sightseers pass through the area as tourists, not necessarily related to the project. Camping participation rates for those users are assumed to remain constant (this will remain constant for all alternatives).

The above-identified effects on camping would be in addition to whatever other changes would already be occurring without the proposal. Depending on a variety of factors, such as the overall condition of the economy, of tourism in general, that use may increase, remain constant, or decrease (this will remain constant for all alternatives). Adverse impacts are anticipated to public campgrounds but not to private facilities (see also Illustration VII-5).

3) Recreation Management (Managerial Characteristics)

a) Objectives

i. Segment 1: Leadville to Buena Vista

Objectives prescribe a Highway Rural character class for managing this segment, both within the corridor and at developed sites, which means that several visitor management controls and regulations will be quite visible. In addition, law enforcement personnel would be moderately visible. Private boaters are the principle present users of subsection B which includes world class whitewater in The Numbers rapids, and one of this group's primary motivations is to raft and kayak in a management climate that is as free as possible of management intervention, this objective would appear to have adverse effects upon private boaters (see following sections for treatment of visitor regulation and enforcement and permits and fees).

ii. Segment #2: Buena Vista to Salida

Objectives prescribe a Roaded Open Country managerial character class for the river corridor. This means that only a moderate amount of visitor management controls and regulations would be noticeable and that law enforcement personnel would only sometimes be visible. The average boater's feelings range from somewhat neutral to expressing a slight dislike for the Roaded Open Country managerial character class and only a slightly greater disagreement with Highway Rural managerial characteristics (which the proposal prescribes for intensively developed recreation sites).

However, the prescribed Roaded Open Country managerial character would not be achievable, given the nature and scope of implementing actions included. Several visitor management controls and regulations would be envisioned for this segment and law enforcement personnel would be moderately visible. These actions characterize the Highway Rural character class. However, even this management presence would probably not be adequate to ensure proper management of the high numbers of people envisioned for this segment.

There is public support for requiring users to carry out their own trash--82 percent support and 9 percent oppose (support is 85 percent commercial/80 percent private); for allowing wood fires only at designated spots--65 percent support and 13 percent oppose (support is 76 percent commercial/49 percent private); for allowing camping only at designated areas--53 percent support and 22 percent oppose (support is 49 percent commercial/47 percent private).

Nearly 50 percent of all Segment #2 boaters support the idea of restricting the number of people using the river at any one time while only one-fourth of all users oppose it (support is 55 percent commercial/37 percent private). There is good support for requiring permits to protect the land: 45 percent of all boaters support them while 28 percent oppose (support is 53 percent commercial/30 percent private). Almost half of all boaters even support the ideas of assigning launch times to achieve better spacing of boats (47 percent support and 24 percent oppose--support is 53 percent commercial/47 percent private) and limiting the number of people per group (49 percent support and 26 percent oppose--support is 50 percent commercial/42 percent private).

Managerial characteristics prescribed for intensively developed sites would retain their current Highway Rural character. No impacts are anticipated. Some adverse impact is expected in the difficulty of ensuring orderly traffic flow from the several different boater access sites.

iii. Segment 3: Salida to Vallie Bridge

No impacts are identified from the Highway Rural managerial character classes prescribed. This is what presently exists.

iv. Segment 4: Vallie Bridge to Parkdale

Objectives prescribe a Highway Rural managerial character class for the river corridor and Developed Urban character for intensively developed recreation sites. This means that several management controls and regulations would occur along the river. However, these controls would be numerous at developed sites which would be dominated by intensive recreation management. Law enforcement personnel would be moderately visible on the river, but highly visible at the intensively developed sites. The average boater feels somewhat neutral to having only a slight dislike for Highway Rural managerial characteristics. In contrast, the average shoreline user, including sightseers, picnickers, fishermen, and campers, slightly likes Highway Rural managerial settings but feels neutral about those classified as Developed Urban.

No significant impacts of these actions are anticipated, as supported by available user preference data (Knopf and Lime, 1981; Knopf and Virden, 1987). There is good support for requiring users to

267

carry out their own trash--75 percent support and 13 percent oppose (support is 78 percent commercial/88 percent private); for allowing wood fires only at designated spots--79 percent support and 6 percent oppose (support is 82 percent commercial/77 percent private); for allowing camping only at designated areas--61 percent support and 16 percent oppose (support is 63 percent commercial/59 percent private).

Somewhat fewer Segment 4 boaters support the idea of restricting the number of people using the river at any one time than do in Segment 2, but support is still there; 43 percent support it while 30 percent oppose it (support is 45 percent commercial/35 percent private). There is good support for requiring permits to protect the land: 46 percent of all boaters support them while 21 percent oppose (support is 53 percent commercial/24 percent private).

Almost half of all boaters even support the ideas of assigning boat launch times to achieve better spacing of boats (44 percent support and 27 percent oppose--support is 47 percent commercial/35 percent private). However, boaters are equally divided on whether to limit the number of people per group (38 percent support and 39 percent oppose--support is 42 percent commercial/24 percent private).

v. Segment 5: Parkdale to Canon City

Objectives prescribe a Roaded Open Country managerial character class for the river corridor and a Highway Rural class for intensively developed recreation sites. The proposal envisions only a moderate amount of visitor management control and regulation and occasional law enforcement presences on the river itself. However, it envisions there would be several visitor management controls and a moderate law enforcement presence at the developed sites.

The Highway Rural managerial prescription for intensively developed sites would likely be exceeded due to the intensive nature of both implementing resource and visitor management actions, particularly at Parkdale (where Segment 4 objectives prescribe a Developed Urban managerial character class). Yet the resulting number of visitor management controls and regulations, law enforcement, and intensive facility management would likely have only a low adverse effect on boaters at developed sites, since most boaters would start at the Parkdale Site (Developed Urban) and end at the town of Canon City (Developed Urban).

vi. Segment 6: Canon City to Pueblo Reservoir

Management objectives prescribe that the managerial character of the river corridor should follow Roaded Open Country guidelines. This is consistent with what now exists and should cause no adverse effect on users.

b) Visitor Management

i. Visitor Services

The proposal calls for providing different sets of services and levels of development from that provided by the private sector. It also aims development at a different market segment from that served by the private sector. At face value, this would mean that however great onsite recreation needs were of Arkansas River recreationists, if any segment of the private sector were attempting to provide for any of those needs, public river managers would not be able to meet those same users needs onsite at the river. In addition, it would require that all onsite developments and services be of a different kind than off-site services provided by the private sector. If actually carried out, this would effectively prevent onsite management responsiveness to demonstrated facility needs and would prevent managing to meet the needs of all users being served by the private sector. This part of the proposal is incongruous with other portions of the Management and Development Proposal.

On the positive side, beneficial effects of visitor services proposed for all segments (excepting the adverse impacts identified elsewhere) would be substantial. At the present time, existing visitor services are extremely inadequate. At most locations, few to no visitor services are being provided, especially in relation to identified needs. In the 1987 user study on public lands for Segments 2 and 4, more than one-third of all users on both segments identified litter on the river banks as a problem; slightly less than one-third identified litter as a problem on the river. More than one-third of all users on both segments pointed out that there are too few garbage cans, and approximately one-third felt that there is insufficient visitor information about the river, on things to see and do. Slightly less than half of all users on both segments feel that the lack of clear identification of picnic and campsite locations is a problem. Visitor services included in the proposal would effectively solve most of these identified problems. Visitor management envisioned in the proposal would be far more responsive to public needs than is any of the management presently occurring on the river.

ii. Visitor Regulation and Enforcement

The proposal falls short of user expectations for dealing with already existing heavy visitor use levels. Sixty four percent of all Segment 2 users felt that there were already too many people on the river; 36 percent of Segment 4 users felt that way--pointing to a need for visitor regulation even at existing use levels.

The proposal intends to manage only component parts of prescribed carrying capacities rather than the total. Instead of allowing use to reach the assigned carrying capacity totals before implementing direct use regulation, the proposal would impose use limits on one user group (e.g., commercial boating) even if use by another group (e.g., private boating) had not yet reached its allotted portion (i.e., the amounts and ratios specified in objectives). This would adversely impact boaters in the sector where use restrictions were imposed by turning away people from this public resource while unused capacity would still exist. Such action would also be contrary to public land policy requiring that maximum numbers of people be allowed to use these lands with minimum damage to public lands and resources (43 CFR 8365.0-2). That maximum amount of use is determined by the prescribed carrying capacity, not its component parts.

The system of private boater identification included within the proposal would adversely effect the private boaters' experience with a degree of management intervention that is generally perceived as being less than desirable by spokespersons for private boating interests. Actual user studies, however, reveal at least some support for more intensive management as necessary to ensure proper management. For example, from one-fourth to one-third of all private boaters studied on Segments 2 and 4 support requiring permits to protect the land; somewhat less than that still support requiring permits to avoid user conflicts.

A positive effect of the proposal in regard to visitor regulation and enforcement is that its higher river corridor carrying capacities would forestall the imposition of any direct user allocation system for the longest possible time. At the same time, maximum numbers of users would still be able to get on the river, notwithstanding the negative resulting effects on resources, visitors, and management identified elsewhere.

iii. Permits and Fees

While the proposal requires DPOR to ensure that the fee system would be based on equality, equity, need, and social efficiency, other elements of the proposal contain actions which would prevent that from occurring. For example, the fairness, equity, and need for whatever fee structure would be adopted by the Parks Board under the proposal cannot be assessed in this analysis since the Parks Board has decided not to make those decisions until after the plan is completed and the anticipated Cooperative Management Agreement would be consummated. They may or may not be fair and equitable.

It appears that another element of the proposal would not be fair and equitable. Right now, only public lands outfitters pay BLM a 3 percent user fee. The proposal does not appear to be equitable because it would have all river outfitters paying a 3 percent user fee, regardless of lands used. If it is fair to charge an on-river fee, it would appear that all outfitters should pay equally. However, the 3 percent limit included in the proposal for 1989 would exempt all public land outfitters from the on-river fee since the 3 percent fee already being paid BLM is required by regulation for the public lands alone and must be returned to help manage those lands, not the river. As a consequence, nonpublic lands outfitters would shoulder the entire on-river user fee burden by themselves.

Both private land-using outfitters and DPOR would be adversely impacted by this policy. The private land outfitters would pay the same fees as public lands outfitters, however they would have no public lands user privileges and may still have to pay a private lands user fee. The DPOR would receive no fee revenue from public lands outfitters to help defray on-river management costs.

At DPOR's direction, this analysis is proceeding under the assumption that all other users (i.e., noncommercials) would pay fees for all public lands use. To require fees of all users is an action opposed by 43 percent of all Segment 2 boaters and 35 percent of all Segment 4 boaters. It is supported by 27 percent of Segment 2 boaters (support is 32 percent commercial/15 percent private) and 31 percent of Segment 4 boaters (support is

32 percent commercial/29 percent private). Private boaters in particular would object to payment of individual use fees and therefore, would perceive this as an adverse impact. Those supporting such action would obviously see it as being beneficial, and those opposing would regard it as being adverse. Also, the user fee requirement imposed on all river users would be rather difficult to administer and costly to enforce. It would negatively impact casual shoreline users (e.g., sightseers, picnickers, etc.) using undeveloped public lands sites (e.g., highway pullouts and wide spots off the highway shoulder).

c) Facility Management

i. Segment 2: Buena Vista to Salida

The proposal is to provide neither toilets nor other sanitation facilities at any of the 18 lunch stop sites in Browns Canyon (8 in the WSA/10 south of Railroad Bridge) but require commercial (not private) boaters to carry and use porta jons (i.e., rocket boxes). Toilets would be provided, however, at Ruby Mountain, Centerville, and Hecla Junction. In reality it would not be feasible to have up to 50 persons occupying each lunch site (south of the bridge) at one time while having to rely on a rocket box for human waste dispodal. With these numbers of people, site congestion would reduce privacy and some people would simply retreat to the bushes. An adverse impact is anticipated--both to users and to the resource itself. Even at 1987 use levels, nearly 50 percent of all Segment 2 users felt there were too few toilet facilities between put-ins and take-outs.

The problem would be somewhat alleviated at the Browns Canyon WSA lunch sites because of reduced site capacities--half that of those south of the bridge (i.e., 25 PAOT). However, the number of people still appears to be too great to permit effective human waste disposal without structures to ensure privacy. Dissatisfaction with the lack of toilets is expected to be high, and a number of people would simply prefer to retreat to the privacy of nature's screening. Impacts would be similar to those above, though they might be of smaller magnitude. The concern would be greater, however, considering the location within a Wilderness Study Area Area.

These problems would be only partially solved by toilets at Ruby Mountain, Centerville, and Hecla Junction. Private boaters in particular would avoid those sites, their larger crowds, and waiting in line for toilets.

ii. All Segments

Beneficial effects of recreation facilities on all segments (excepting the adverse impacts identified above) would be substantial. At the present time, existing facilities are extremely inadequate. At most locations of need, they are totally absent. Wherever facilities have been built, they are either insufficient to meet public needs, or are in serious need of more adequate maintenance.

These concerns are borne out by user-identified problems from the user study that was completed in 1987 on Segments 2 and 4. More than one-half of all users have identified inadequate toilet facilities at put-ins and take-outs. Also approximately half of all users have pointed out that the same problem exists on the river between put-ins and take-outs--on both segments. More than half of all users on both segments feel there are too few drinking water sources. Likewise slightly less than half of all users on both segments feel that poor quality picnic sites and campsites is a problem. On Segment 2, one third of all users identified the presence of too many commercial establishments as a problem, which is partly related to the present inadequacy of public management wherewithal to meet those users' needs.

Federal funding support for meeting the identified facility construction needs through the BLM on both Segments 2 and 4 has been nonexistent. Continued efforts by the agency to identify and obtain funding to provide those facilities have not been able to secure the needed recreation construction funds for over five years. Only limited maintenance funding has been available during this same period.

Most of the facility construction and maintenance needs identified by the users could be provided under the proposal. The practical wherewithal to deliver is there; for example, anticipated funding levels for the management and development proposal are many times greater than what is presently provided by Congressional appropriations for recreation management on the affected public lands. The proposed developments would result in a substantial increase in management responsiveness to public outdoor recreation user needs.

d) Administration

One of the principal negative features of the proposal would be the great difficulty in administering the tremendous diversity in carrying capacity prescriptions i.e., differences in launch windows, different commercial-private allocation ratios, and so forth. The resulting complexity would present such a maize of administrative entanglement that it would be very difficult, not only to convey management intent to the public, but to implement the proposal in a cost-effective manner.

Proposed operation of the area on a user funded basis would tend to treat public lands resources involved as a private commodity rather than as a public good. The nature of all recreation opportunities being provided are not such that their provision can be reduced to economic terms. To do so would result in a type of management that does not necessarily promote the greatest public good for these resources and that does not ensure that those lands are being used by the maximum number of people with minimum conflict among users and minimum damage to the public lands and resources themselves (as required by 43 CFR 8365).

The proposal also includes an area-wide action to work with the DPOR Advisory Committee and interested agencies to designate specific sites within each river segment for facility development. Since the plan is to identify sites for development in order to ensure that environmental effects are properly addressed and that opportunity for public comment on the same is provided, leaving such decisions up to managers and forgoing them in this plan would adversely affect users who would otherwise have a voice in this process.

b. Mitigation

1) Recreation Resources (Physical Characteristics)

All facility developments in Segment 6 will be kept to a small enough size and located so that they do not impact heron rookeries and other avian wildlife that are major recreation attributes.

2) Visitor Use (Social Characteristics)

To help resolve already existing crowding problems, limits could be placed on the maximum numbers of people allowed per group as well as maximum numbers of boats per group on Segments 1, 2, 4, and 5.

3) Recreation Management (Managerial Characteristics)

Direct use regulations would not be implemented until combined commercial and private boating use reaches assigned carrying capacities. This use regulation would only be implemented when the assigned carrying capacity has been reached on any given river segment, not just the targeted component volumes assigned the individual private and commercial sectors.

If actual use in one sector reaches the targeted amount before it does in the other, the targeted ratio of commercial to private use prescribed in the proposal would be adjusted before direct regulation of boating use on any segment of the river is implemented.

The State Parks Board will ensure that the public and all affected user groups are involved in the State Parks Board's establishment of user fee requirements and fee schedules, coordinating the same fully with BLM and other affected agencies.

4. Soils

a. Impacts

Under the proposed action and all of the alternatives, increased human use along the river would be anticipated. In heavy use areas, some vegetation would be destroyed, and increased erosion can be expected.

b. Mitigation

In heavy use areas, soil erosion could be minimized by structural measures such as sidewalks, stairways, paved picnicking pads, runoff collecting systems, and lined drainage channels.

5. Vegetation (other than T&E Species)

a. Impacts

Under the Proposed Action and all alternatives, the construction of new recreational facilities would result in the loss of some vegetation; i.e. under parking lots, roads, trails, beach areas, etc. Also, uncontrolled vehicular and pedestrian traffic adjacent to developed sites and at other locations where considerable use is expected to occur (Segment 4) would result in damage and destruction of vegetation.

There would be no impact on the forest resources since management practices would remain the same. Even if the 28 acres of lodgepole pine were removed from the Canon City timber production base of 50,123 acres and managed for recreation purposes solely, the overall effect is insignificant.

Actually, implementation of the Proposed Action or any of the alternatives with the following mitigating measures would result in an overall improvement of the vegetative resource condition. This would result from implementing rehabilitation and protective measures in and around recreation sites and intensively used areas.

b. Mitigation

1) Incorporate within and adjacent to all recreation sites, and any other disturbed areas, a vegetation rehabilitation program to reestablish naturally occurring vegetative types that would be lost due to facility development or intensive recreational use and provide measures to help ensure their survival.

2) Provide for protection of existing vegetative species, to ensure their survival, through visitor management controls; i.e. trail construction, vehicle barriers, site hardening, regular patrols, etc.

6. Animal Life (all but livestock and T&E Species)

The proposed action outlines development of approximately 40 recreation sites along the river. In order to accommodate this development and people pressure small areas of riparian habitat will be destroyed to accommodate parking lots, campsites, etc. Mid-seral stage species (shrubs, willows, small trees, etc) may be removed with larger trees remaining or removed depending on site plans. The various wildlife species, primarily birds, that utilize the mid-seral vegetative community will be displaced. Other species will also be affected.

When a riparian habitat is removed or severely manipulated, not only are the species of the area adversely influenced, but wildlife productivity in the adjacent habitat is also depressed. The actual width of the zone of influence these habitats have on adjacent wildlife habitat productivity may, for some animal species, extend several hundred yards beyond the edge of the streamside vegetation.

Fortunately, the total acreage of riparian habitat to be affected will be small, probably less than 40 acres. Some recreation sites will be two acres but most will be less than one acre. Several sites do not contain riparian vegetation. Impacts to wildlife species associated with the riparian zone will not be significant (see Vegetation Environmental Consequences and Mitigation).

a. Bighorn Sheep

1) Impacts

Chapter IV of this plan outlines multiple-use goals and objectives for all segments of the river. The goal for wildlife management is to "Provide for continual wildlife habitat protection and improvement projects" to "protect bighorn sheep and their habitat, and prevent user conflicts between bighorn sheep and recreation users". Concern for the bighorn sheep resource has been expressed by state and federal agencies, and by the public during scoping meetings and by conservation groups.

Impacts to bighorn sheep can be very difficult to determine. Adverse impacts can be broken down into two general categories: (1) Direct loss and (2) Indirect loss. Direct losses include those actions which physically alter or change bighorn sheep habitat. Indirect losses of habitat are those areas not physically destroyed, but those outside the affected area that become unusable by sheep due to proximity to human disturbances. Direct losses of habitat are not likely to be significant with most alternatives of the plan, simply because sheep are not occupying the river banks to any great extent, with the exception of securing drinking water. Indirect impacts will be greater as a result of increased human activity along the river.

In order to more accurately predict responses of bighorn sheep to the types of activities proposed in the plan, an exhaustive literature search was conducted to uncover pertinent literature and research data concerning human impacts to bighorn sheep. Prior to discussing impacts related to each alternative, it is imperative to review this literature and highlight the findings and results that may provide some insight into the conclusions that are drawn later in the impacts section.

The bighorn sheep has traditionally been considered a wilderness animal inhabiting some of the most rugged terrain in Colorado. It lives where few other animals its size can live, thereby reducing its contact with potential competitors. Prior to the mass harvesting of sheep brought on by the settling of the state in the late 1800s, bighorn sheep occupied vast areas of Colorado. They were common in rugged areas such as the Arkansas River canyon. These historic habitats are now occupied by human developments i.e, housing, highways, railroads, etc. Despite these encroachments by people in the valleys, much of the primary habitat (rugged, rock outcroppings) has remained undeveloped.

Sheep are highly social animals which use the same range year after year. Home ranges are inherited by young sheep from the parents through learning behavior. Unlike many species, bighorn do not appear to explore for new territory (Geist, 1971). For this reason, it is necessary in managing bighorns to transplant sheep to historic habitats rather than assume they will expand on their own. The transplanting of bighorn to historic ranges in the Arkansas valley has been ongoing for several years and has been extremely successful, despite the widespread urbanization of the river valley.

275

However, at some point in time, mans influence on the sheep will reach a critical point. Over the years behavioral patterns evolved which reduced competition and stress. As a result sheep have become very specialized. Today, however, man is the major instigator of these stressful situations (DeForge, 1976). The key is recognizing when stress will begin to adversely affect sheep populations.

Several investigators have found that bighorn sheep will habituate to limited human activities. Hicks et al (1979) found that sheep populations in the Sierra Nevada's of California did not decline due to recreational use of the area and that sheep continued to use areas where repeated encounters with humans were common. He found that distance, herd size, and elevation of humans in relation to sheep were important in determining the reaction of bighorns when approached by people.

MacArthur et al (1982) recorded cardiac and behavioral responses of sheep to human disturbances using Heart-Rate (HR) telemetry. His study area in Canada consisted of a hunted population of 120 sheep who were regularly exposed to human activities along a gravel road in the valley. During peak recreational periods the sheep were exposed to 25-30 vehicles passing per hour. In addition to observing the sheep responses to vehicular activity he conducted harassment trials in which sheep were approached by researchers at intervals of 150 meters (164 yards), 100 meters (110 yards), 50 meters (55 yards), and 25 meters (27 yards) respectively. He found no discernible rise in heart rate until the person was within 50 meters (55 yards). In addition he found only 19 of 215 documented passes (8.8%) of sheep by vehicles evoked heart rate responses. Approximately 74% of these responses occurred when vehicles passed within 25 meters (27 yards) of the sheep. Less than 1% of the vehicle passes actually caused sheep to move physically. In looking at heart rate responses to disturbance, he found that sheep returned to normal heart rate within 2-3 minutes after stimulus.

The low reactivity of these sheep to human disturbances confirm expectations for a population existing in a known, predictable environment. As the road was a focal point of human activity, it was not surprising that few responses were observed to traffic or approach by humans walking directly from parked vehicles.

Leslie et al (1980) observed similar response in desert bighorn sheep in Nevada. He determined that reactions to construction activities by bighorn were minimal due to their habituation to man. He concluded that sheep responses could be serious in situations where a previous sheep-human relationship had not existed.

Geist (1971) in his book Mountain Sheep: A Study in Behavior and Evolution stated, "It is hard to imagine a wild animal more readily tamed than mountain sheep. Sheep will habituate to a person if they see him daily and within a few months allow him to approach closely."

Bighorn sheep in the Arkansas canyon have been influenced by mans activities for many years. Older herds, such as the Arkansas Canyon herd, have learned to adjust to human activities along the river. The ability to cope has been passed from generation to generation. Younger herds that have been transplanted in the canyon often come from "wild" environments where human contacts are minimal. Nevertheless these animals have also learned to adapt. This is evidenced by the frequency of sheep sightings from the original transplants in the canyon (recognized by eartags and collars). Each succeeding generation is learning to adjust to mans presence in the area.

Despite these obvious adjustments, sheep in the canyon do have a limit as to acceptable contact with people. Sheep, as with most wildlife species, establish a barrier or limit within which they will allow intrusion. MacArthur et. al. (1982) found that point to be about 50 meters (55 yards) in his study. Experience has shown that in the Arkansas canyon herd, sheep will tolerate highway traffic, railroad traffic, and limited recreation on the river. However, when people cross the river, stop on the north bank while boating, or hike into sheep habitat north of the railroad tracks, they become disturbed and move to escape cover. Sheep are habituated to vehicle traffic, moving trains, and moving boats, but not to people on foot in their habitat. Sheep from the Grape Creek herd, south of Highway 50 are very tolerant of traffic on the highway and are often seen feeding within 25 yards of the road. However, when sightseers stop to look, sheep often become alert. They will consistently move away if people get out of their cars and move in their direction. In contrast these same sheep display no concern when people, stopped on the highway, focus their attention to river activities. Purdy (1981) found that behavior of bighorn sheep towards humans appeared to be a reflection of the way humans behaved towards sheep.

Water is a critical component of the bighorn habitat that is in some cases a limiting factor to sheep in the Arkansas Canyon. Natural springs and seeps common in the spring often dry up forcing sheep to obtain water from the river during hot summers. Leslie et al (1980) found that sheep showed a dependency on permanent water sources and that ewes in particular displayed a high degree of fidelity to water sources. Construction activities in the vicinity of desert bighorn water sources affected their use of that water (Campbell et al. 1981). Campbell also determined that peak watering activity occurred between the hour of 6-8 a.m. and 4 p.m. until dusk in the desert of Arizona. Desert bighorn minimize energy expended by visiting water sources during the cooler parts of the day. Sheep in the Arkansas Canyon have adapted similar water-use patterns, but due to cooler weather, typically water from 7 a.m. - 9 a.m. and from 3 p.m. until dusk. The ability to water undisturbed is critical to preventing stress. Undue stress may result in lower reproductive output and ultimately have a long-term effect on the viability of the population. The frequency and timing of boats on the river is critical in determining whether or not sheep can water undisturbed. As reported earlier, MacArthur determined that heart rate returned to normal 2-3 minutes after stimulus. In order to accommodate sheep requirements, a minimum of two minutes between boats is necessary during peak watering periods.

Specific impacts to bighorn sheep from the proposal and alternatives vary greatly between segments. Description of impacts will be described by segment for the proposed and three alternatives.

Segment 1

Bighorn sheep do not utilize the river canyon during the summer months. As a result they would not be impacted by the proposed action. No developments are planned for the winter range used by sheep between Clear Creek and Langhoff Gulch and no impacts to sheep habitat are anticipated.

Segment 2

This segment is home to the Browns Canyon sheep herd which numbers about 125 animals. Despite the large amount of suitable habitat in the canyon itself, the main herd does not occupy the river canyon, instead spending most of the year within a three mile radius of the abandoned mining town of Turret. Impacts to this portion of the herd will be minimal under the proposal. However, in the future, as the herd expands and occupies new habitats, they are not likely to utilize available range along the Arkansas Canyon. The amount of use anticipated under the Proposed Action is great enough to preclude use by sheep. This is especially true when recreation use in Browns Canyon is on the same side of the river as the sheep. Fortunately, the sheep will most likely occupy this habitat during the winter months when recreational use is minimal.

The small herd (~30) that presently utilized the habitat on the east side of the river in the Seidels-Stone Bridge area and the small group of sheep (10) in the Ruby Mountain area will most likely abandon their habitats under the Proposed Action. Recreational developments, especially those designed to hold people overnight, will push sheep further away from the center of activity. Human activity in these areas from dawn to dusk will result in indirect impacts, those that do not result in destruction of habitat but which cause animals to abandon habitats in order to move away from people. Although almost impossible to predict, it is unlikely that sheep numbers will be severely impacted as alternate habitat is available.

Despite the adaptability of sheep and their ability to habituate to man, they are not likely to accept the use levels and associated disturbances of the proposed action in these areas.

The third area of sheep habitat affected by the proposal is the area located north of the river, along Highway 50 east of Salida, at the Chaffee County - Fremont County line. The sheep (~40) that use this area are from the Browns Canyon herd and migrate back and forth from the Turret area.

Impacts to these sheep under the Proposed Action will most likely not be significant. Although their habitat is accessible on the north side of the river, no recreational developments are planned in the area. In addition, sheep use in this area is restricted mostly to the winter months. The amount of river recreational use in this area is low compared to other segments.

In summary, impacts to bighorn sheep in Segment 2 are indirect and will not result in any physical disturbances to habitat. However, sheep will abandon some areas due to the increased recreational use. Reductions in sheep populations are not anticipated, however as sheep expand and increase in numbers, they will not occupy habitats near heavy recreational use areas.

Segment 3

Impacts to sheep in this segment are limited to the Browns Canyon herd which was described in the previous segment.

Segment 4

Impacts to bighorn sheep will be higher in this segment. Of the total numbers of sheep located in the proposed recreation area corridor, almost 50% (265 animals) are found in this segment. The proposal will make this segment the most heavily used for river recreation in the plan with 37% of the projected use. The 1988 estimate of boating persons per year for this segment was 51,359. Under the proposal, this would increase by 1997 to 222,818 persons. About 81% of this total or 180,290 persons will use this segment for the 78 day period between May 15 and August 1 of each year. It is possible with these numbers that 2,311 persons will boat each day, although realistically, this number would be higher on weekends than weekdays. Maximum numbers of boats per day is 1100 for all subsections. In addition to the high boater numbers, the proposal calls for developing 15 recreation sites in this segment. Maximum numbers of people at one time at these sites is 1467. A projected increase of 25% in traffic volume is expected on Highway 50 as a result of the proposal.

This four times increase in recreational use and associated human impacts will most certainly have an effect on the resident bighorn sheep. Capacities under the proposed action will allow 110 boats per hour or almost 2 boats per minute in this segment for a 10 hour day (8:30 a.m. - 6:30 p.m.).

The primary boating season is the most critical season for sheep to have free access to water. It is doubtful sheep will water undisturbed when rafts pass every 30 seconds. Studies have shown it takes 2-3 minutes for sheep to lower heart rate response after being disturbed. The constant stress associated with this disturbance likely could be detrimental. It is also likely that some habitats along the river will no longer be used as sheep attempt to disassociate themselves from the disturbances. An increase in road kills is also anticipated due to increased highway traffic. Sheep/vehicle accidents will impact the Grape Creek herd as they are the only sheep found along the highway right-of-way.

Actual losses of sheep or reduction in the herd are difficult to measure. With the exception of road kills and occasional poaching incidents, sheep will not be lost directly. A much more likely scenario will be a situation where stress reduces reproductive potential thereby affecting lambing and lamb survival. It is probable that sheep in the canyon, despite their adaptability will react negatively to the numbers of people associated with the proposal (see Illustration VII-7).

Segment 5

No impacts to bighorn sheep will occur as no sheep are found in this segment.

Segment 6

No impacts to bighorn sheep will occur as no sheep are found in this segment.

ILLUSTRATION VII-7

IMPACTS TO WILDLIFE AND THREATENED AND ENDANGERED SPECIES

	PROPOSED ACTION										
RIVER SEGMENTS =>	1			2		3	4			5	6
AFFECTED SPECIES	A	B	C	A-D	E		A	B	C		
BIGHORN SHEEP	N	N	N	M	N	N	N	H	H	N	N
MULE DEER	L	L	L	L	L	L	L	L	L	L	L
PEREGRINE FALCON	N	N	N	N	N	N	N	N	N	N	N
BALD EAGLE	N	N	N	N	N	N	N	N	N	N	N
RAPTORS	N	N	N	N	N	N	N	N	N	N	N
WATERFOWL	H	H	H	H	H	H	H	H	H	H	H
NON-GAME	N	N	N	M	N	N	N	M	M	N	H
BROWN TROUT	N	H	H	H	L	M	M	M	H	M	N
PLANTS											
ERIOGONUM BRANDEGEI	N	N	N	N	H	H	N	N	N	N	M
PENSTEMON DEGENERI	N	N	N	N	N	N	M	M	M	M	N
PARTHENIUM TETRANEURIS	N	N	N	N	M	M	M	M	M	M	M
AQUILEGIA CHRYSANTHA	N	N	N	N	N	N	N	N	N	N	N
HAPLOPAPPUS FREMONTII	N	N	N	N	N	N	N	N	N	N	N
MENTZELIA DENSA	N	N	N	N	H	M	H	H	M	L	L

	ALTERNATIVE A										
RIVER SEGMENTS =>	1			2		3	4			5	6
AFFECTED SPECIES	A	B	C	A-D	E		A	B	C		
BIGHORN SHEEP	N	N	N	M	N	N	N	H	H	N	N
MULE DEER	L	L	L	L	L	L	L	L	L	L	L
PEREGRINE FALCON	N	N	N	N	N	N	N	N	N	N	N
BALD EAGLE	N	N	N	N	N	N	N	N	N	N	N
RAPTORS	N	N	N	N	N	N	N	N	N	N	N
WATERFOWL	H	H	H	H	H	H	H	H	H	H	H
NON-GAME	N	N	N	N	N	N	N	N	N	N	H
BROWN TROUT	M	L	N	M	N	N	N	N	N	N	N
PLANTS											
ERIOGONUM BRANDEGEI	N	N	N	N	H	H	N	N	N	N	N
PENSTEMON DEGENERI	N	N	N	N	N	N	M	M	M	M	N
PARTHENIUM TETRANEURIS	N	N	N	N	M	M	M	M	M	M	M
AQUILEGIA CHRYSANTHA	N	N	N	N	N	N	N	N	N	N	N
HAPLOPAPPUS FREMONTII	N	N	N	N	N	N	N	N	N	N	N
MENTZELIA DENSA	N	N	N	N	N	M	H	H	M	L	L

	ALTERNATIVE B										
RIVER SEGMENTS =>	1			2		3	4			5	6
AFFECTED SPECIES	A	B	C	A-D	E		A	B	C		
BIGHORN SHEEP	N	N	N	M	N	N	N	H	H	N	N
MULE DEER	L	L	L	L	L	L	L	L	L	L	L
PEREGRINE FALCON	N	N	N	N	N	N	N	N	N	N	N
BALD EAGLE	N	N	N	N	N	N	N	N	N	N	N
RAPTORS	N	N	N	N	N	N	N	N	N	N	N
WATERFOWL	H	H	H	H	H	H	H	H	H	H	H
NON-GAME	N	N	N	N	N	N	N	N	N	N	H
BROWN TROUT	N	H	H	H	L	M	M	M	H	M	N
PLANTS											
ERIOGONUM BRANDEGEI	N	N	N	N	H	H	N	N	N	N	N
PENSTEMON DEGENERI	N	N	N	N	N	N	M	M	M	M	M
PARTHENIUM TETRANEURIS	N	N	N	N	M	M	M	M	M	M	M
AQUILEGIA CHRYSANTHA	N	N	N	N	N	N	N	N	N	N	N
HAPLOPAPPUS FREMONTII	N	N	N	N	N	N	N	N	N	N	N
MENTZELIA DENSA	N	N	N	N	N	M	H	H	M	L	L

	ALTERNATIVE C										
RIVER SEGMENTS =>	1			2		3	4			5	6
AFFECTED SPECIES	A	B	C	A-D	E		A	B	C		
BIGHORN SHEEP	N	N	N	N	N	N	N	N	N	N	N
MULE DEER	L	L	L	L	L	L	L	L	L	L	L
PEREGRINE FALCON	N	N	N	N	N	N	N	N	N	N	N
BALD EAGLE	N	N	N	N	N	N	N	N	N	N	N
RAPTORS	N	N	N	N	N	N	N	N	N	N	N
WATERFOWL	M	M	M	M	M	M	M	M	M	M	M
NON-GAME	N	N	N	N	N	N	N	N	N	N	H
BROWN TROUT	N	N	N	N	N	N	N	N	N	N	N
PLANTS											
ERIOGONUM BRANDEGEI	N	N	N	N	H	H	N	N	N	N	N
PENSTEMON DEGENERI	N	N	N	N	N	N	M	M	M	M	N
PARTHENIUM TETRANEURIS	N	N	N	N	M	M	M	M	M	M	M
AQUILEGIA CHRYSANTHA	N	N	N	N	N	N	N	N	N	N	N
HAPLOPAPPUS FREMONTII	N	N	N	N	N	N	N	N	N	N	N
MENTZELIA DENSA	N	N	N	N	N	N	N	N	N	N	N

N = No Impact
L = Low Impact
M = Moderate Impact
H = High Impact

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2) Mitigation

Mitigating impacts to bighorn sheep from the proposed action will consist primarily of controlling public use as opposed to mitigating impacts to the habitat. Not all segments of the proposal are affected. In segments 2 and 4, impacts have been identified. The following Mitigating measures may reduce the severity of those impacts.

a) At Ruby Mountain recreation site, restrict public use to the developed site from May 15-July 14 (critical lambing season). No hiking and/or camping east of this site in bighorn habitat during this time period.

b) In Browns Canyon (Segment 2), south of where the railroad crosses the river, restrict public use east of the river to the area between the river and railroad tracks. This restriction will apply only during the critical lambing season from May 15 - July 14.

c) Develop the Devils Hole Campground south of the railroad and restrict public use north of the railroad to protect bighorn sheep.

d) Implement interpretive wildlife signing along the river corridor to educate the public about bighorn sheep.

e) Stipulate in permits that sheep will not be harassed or bothered by boaters.

f) Dogs should not be allowed to roam freely in heavy sheep use areas, especially Segment 4. Sheep react negatively to dogs whether leashed or not.

g) Group launches of 8-10 boats at one time should be attempted to give sheep a 5-6 minute break between boats for watering purposes. This will alleviate the constant negative stimulus associated with a boat passing every 30 seconds.

h) Establish 50-yard buffer zones between sheep habitat areas and developed recreation sites.

i) Explore the possibility of developing water sources north of the railroad tracks to help prevent the need for sheep to water on the river.

b. Mule Deer

1) Impacts

Impacts to mule deer habitat from the proposed action will be insignificant. Developed sites will not be located in critical mule deer range. Mule deer use of the low elevation habitat along the river will be more concentrated during the winter months when recreation use is lowest.

The highest impact to mule deer will be the increased accidents involving deer and vehicles. The increased traffic volumes associated with the large numbers of people on the highways will aggravate this

281

problem. The Colorado Division of Wildlife estimates 400 deer are killed annually between Leadville and Canon City. An estimated increase of 25% in traffic volumes is projected as the proposal is implemented. It is reasonable to assume that an additional 25% or 100 deer will be lost in accidents.

2) Mitigation

Preventing and reducing mule deer/vehicle accidents has been a problem in Colorado for many years. Thousands of deer are killed annually on the highways. Prevention of these accidents have involved many innovative attempts at keeping deer off the highway. Highway underpasses, deer-proof fences, reflective mirrors and sirens, have all met with limited success. Avoiding the planting of preferred forage species along the highway rights-of-way have helped. At this time, no effective way of reducing this impact is available that could be utilized in the Arkansas Canyon.

c. Raptors

1) Impacts

Impacts to raptors from the proposal will not be significant nor measurable. Nest sites in the river canyon are located well away from the centers of activity.

2) Mitigation - None.

d. Waterfowl

1) Impacts

Although the number of duck broods raised along the Arkansas River each year is small, their access to the river is critical. The peak boating season occurs during the nesting season. The ability of ducks to nest undisturbed and successfully fledge young will be dependent on the amount of recreational use on the river. At the levels of use anticipated in the proposed action, waterfowl nesting along the river will most certainly be nonexistent. Although there is no information available to predict the number of waterfowl affected, the number is estimated at less than 100 pairs.

2) Mitigation

Mitigation of nesting waterfowl on the river will not be possible under the proposal.

e. Non-Game

1) Impacts

Boating on the lower Arkansas River from Florence to Pueblo Reservoir may impact at least one known heron rookery. Other nesting areas may be located along the river that are unknown at this time. Boating numbers projected in the proposal may cause abandonment of the rookery.

2) Mitigation

If boating at projected levels takes place, two measures may be taken to avoid impacts. If feasible, a portage around the area would solve the problem. A more likely measure would be to inform the public through interpretive signing of the location of the rookery. Boats floating through the area would need to maintain low noise levels to avoid disturbing the birds. Restriction could be lifted by mid-July as young herons fledge and leave the area.

f. Fisheries

Biological impacts of activities associated with the proposed action could be of two types, direct and indirect, and very difficult to quantify. Most of the direct impacts would be due to the disturbance of fish or the disruption of their normal activities, such as feeding, spawning, resting, etc., from a high exposure to rafts. Indirect impacts on the biology of the river would come if the riparian vegetation, water quality or flows were affected.

To document these impacts, a study would need to be made that would address many questions concerning the trout population. For example, are trout feeding in the primary boating lanes, do brown trout adjust to a constant presence of boats, what microhabitat do the brown trout select for feeding, what flow levels are critical to stimulate a negative response in the trout from boating, what is their diet in the summer period, is overwinter mortality related to poor conditions and what role do exposure to heavy metals play in winter mortality? These specific questions can not be answered for the Arkansas River population at this time. However, other studies on brown trout habitat utilization, not concerned specifically with rafting, suggests that certain impacts could be associated with intense recreational boating.

Studies have been completed on the brown trout population of the Arkansas River concerning special regulations (Nehring and Anderson 1981-1985), heavy metals (Nehring 1986) and the invertebrate community and brown trout diet (Winters 1988). These studies have led to a good understanding of the present fish population biology and structure. It is presently felt that low level accumulation of cadmium poses the greatest detrimental impact to brown trout. The analysis indicates very strongly that the brown trout in the Arkansas River are being limited, particularly on older spawning age fish. It is unusual to find brown trout older than four years of age in the river.

There are numerous accounts from "old timers" of many 18 to 20 inch brown trout caught in the river up through the mid 1970's. Brown trout over 16 inches have been very rare in the river from 1980 to the present. Assuming that water quality (heavy metal pollution) was fairly constant for the past twenty years, there have been a number of changes on the river since the late seventies that could partially account for fewer large trout. Changes include reduced forage due to termination of catchable rainbow stocking, and smaller caddisfly hatches. Also 1978 started a 10 year period of above average runoff flows, which affects both trout and aquatic insect. In addition, commercial rafting became popular in the late seventies.

There have been studies that demonstrate a conflict between rafting and fishing at a social level. In most situations in which there was concern for the fish populations, over-harvest of fish by anglers fishing from rafts or float boats was the main objective of investigation. In the Arkansas River, float fishing is presently not very popular and is therefore not considered a major impact of fish populations. This impact could become more important with more float fishing, but could be solved by use of restrictive harvest regulations.

A literature review found no studies addressing biological impacts of rafting on fish populations. The fact that rafting impacts have not been studied does not necessarily suggest that impacts do not exist. Most whitewater rafting rivers do not support quality trout fishing, therefore no conflicts were identified. Many rivers support rainbow, steelhead, or salmon. These species have different habitat preferences and behavioral responses to disturbance than the brown trout, which occupy the Arkansas River. Many rivers do not receive the intensity of rafting which the Arkansas does. Lastly, many rivers with boating also support good fishing. If rafting were considered an impact, it would take an expensive and labor intensive study to document it.

Many studies have been made on the behavior of brown trout. Bachman (1984) in a direct observation study found that brown trout position themselves at focal points from which activities are originated (feeding, hiding, resting). Typically an individual brown trout defends a particular focal point from other fish. When disturbed, brown trout quickly seek cover. Bachman (1984) stated, "The overhead flight of a large bird... typically caused a wild brown trout to dart to one side or another and become motionless with its body pressed tightly to the substrata. With no further stimulus, the fish would usually return to its foraging site and resume feeding within 3 to 5 minutes. Repeated alarm stimulus or stronger initial stimulus (such as a mallard landing) would cause the fish to flee to deep water and become motionless or to move under a bank, rock, or some brush. In such a case, the fish would usually return to a foraging site in about 20 to 30 minutes". This implies that visual contact with a raft could trigger a hiding response in the fish.

Fishermen often note that trout "go down" after they are spooked by boats. However, no one has suggested that this could potentially lead to reduced growth condition or survival of a population.

Brown trout occupy only a small part of the entire habitat that is available to them in a river. They actively select areas with a preferred microhabitat, and populations can be limited by the lack of certain microhabitats. Feeding sites are very important and must be energy efficient. These sites are selected by brown trout to maximize their feeding efficiency. Ideally a fish will select a location that 1) allows a good view of food organisms, 2) is near faster currents, yet has little current at the actual location, and 3) provides escape cover nearby. Escape cover is usually in deeper water, frequently under a bank, rock, or brush.

Trout feed visually and feeding originates from a focal point near the bottom. In one study 97 percent of feeding positions were on or within 4.5 inches of the stream bed (Shirvell and Dungey 1983). Wesche (1980) recommended a water depth of 6" and a focal point velocity of .5 ft/sec. as optimal adult brown trout resting and feeding habitat. Velocity was the primary factor in determining a focal point location. Brown trout usually avoid the deepest and fastest habitat for feeding. Feeding depths ranged from 16.5 to 34.6 inches and velocity ranged from 0.5 to 1.25 ft/sec. (Shrivell and Dungey 1983). Also habitat preference is a function of the size of the fish, with the larger trout selecting the deeper, swifter areas.

The feeding behavior of the brown trout is important because it has many implications on growth and mortality rates on brown trout. Cunjak, et al (1987) described energy deficits that lead to winter mortality. Poor forage in the early-winter results in a metabolic deficit, caloric intake is insufficient to balance the basal metabolic costs. This leads to depletion of energy reserves and an inability to replenish body reserves because of low temperature limitations on food digestion and assimilation. Mature trout are very susceptible to this since a lot of energy has to go into reproduction, while immature trout may never realize an energy deficit. Past studies indicate that a situation like this exists on the Arkansas River. Increases in temperature in the spring also cause an increase in the fishes metabolism at a time when food availability is low.

Riparian impacts can be caused by trampling of the banks and elimination of vegetation due to the beaching of boats and traffic from people. Riparian impacts that could potentially effect fish populations would be siltation, and reduced nutrient loading in the form of leafy and woody debris. Winters (1988) found very few shredders (insects that process organic litter) in the invertebrate community indicating that course organic matter is scarce, and potentially reducing the productivity of the river.

It is not felt that rafting could cause a deterioration in the water quality, turbidity, temperature, or flows with the present proposal.

Winters (1988), in his work on the Arkansas River in 1981 and 1982 at Lone Pine, concluded that the availability of prey is the leading factor limiting the size of the brown trout and poor condition factors during the winter. Insects numbers are reduced during the summer runoff period, when the environment is very harsh. In high flow years, there is not much time to build energy reserves for both reproduction and to get them through the winter period. He also found that many trout come out of the winter in poor shape and must feed efficiently to build up body condition.

Over winter mortality is occurring on the Arkansas River (Nehring and Anderson, 1985) and it would be beneficial for trout to have the longest possible growing season and the highest body condition before starting the winter season. Low runoff years like 1987 and 1988 add 4 to 6 weeks to the growing season and can increase trout growth by 1 to 2 inches compared to high runoff years like 1983 and 1984. For rafting to disrupt feeding activities, the river flows would have to be fairly low and the water clear. Highest impact feeding areas are those with less than 26 inches depth and with velocities of less than 1.25 ft/sec.

If brown trout in the Arkansas River react similarly to the population studied by Bachman (1984), an overhead disturbance could possibly cause the fish to move to escape cover for two to three minutes. A frequency of disturbance that was equal to, or more than this duration, could therefore greatly limit their ability to feed efficiently. Because of the tentative situation that brown trout already face in the Arkansas, any additional detrimental affects to feeding could lead to greater mortality than the high level they are not experiencing. It must be kept in mind that this is hypothetical and has not been documented to occur on the river. Future studies may address this situation.

A thorough understanding of the habitat and flow characteristics of the river would be needed to determine the flow associated with the above variables. An IFIM (Instream Flow Incremental Methodology) has been prepared at one site (Wellsville), but is not representative of the entire river from Leadville to Pueblo. Nonetheless, the estimated threshold flow that could cause direct impacts is 1,000 cfs. At higher flow, boats kept to the deepest and faster currents would not likely cause disturbance to feeding.

The Arkansas River has been divided into 6 segments. Trout populations in each segment could react differently to boating, depending on variables such as number of boats, boating season length, habitat quality, forage availability, and river flows, etc. The type of stress induced by intense boating will be applied to the river by segment, assuming that stream levels increase with increasing number of boats and with lower levels of flow.

Impacts to trout populations for each segment by alternative are depicted in Illustration VII-8.

a. Impacts

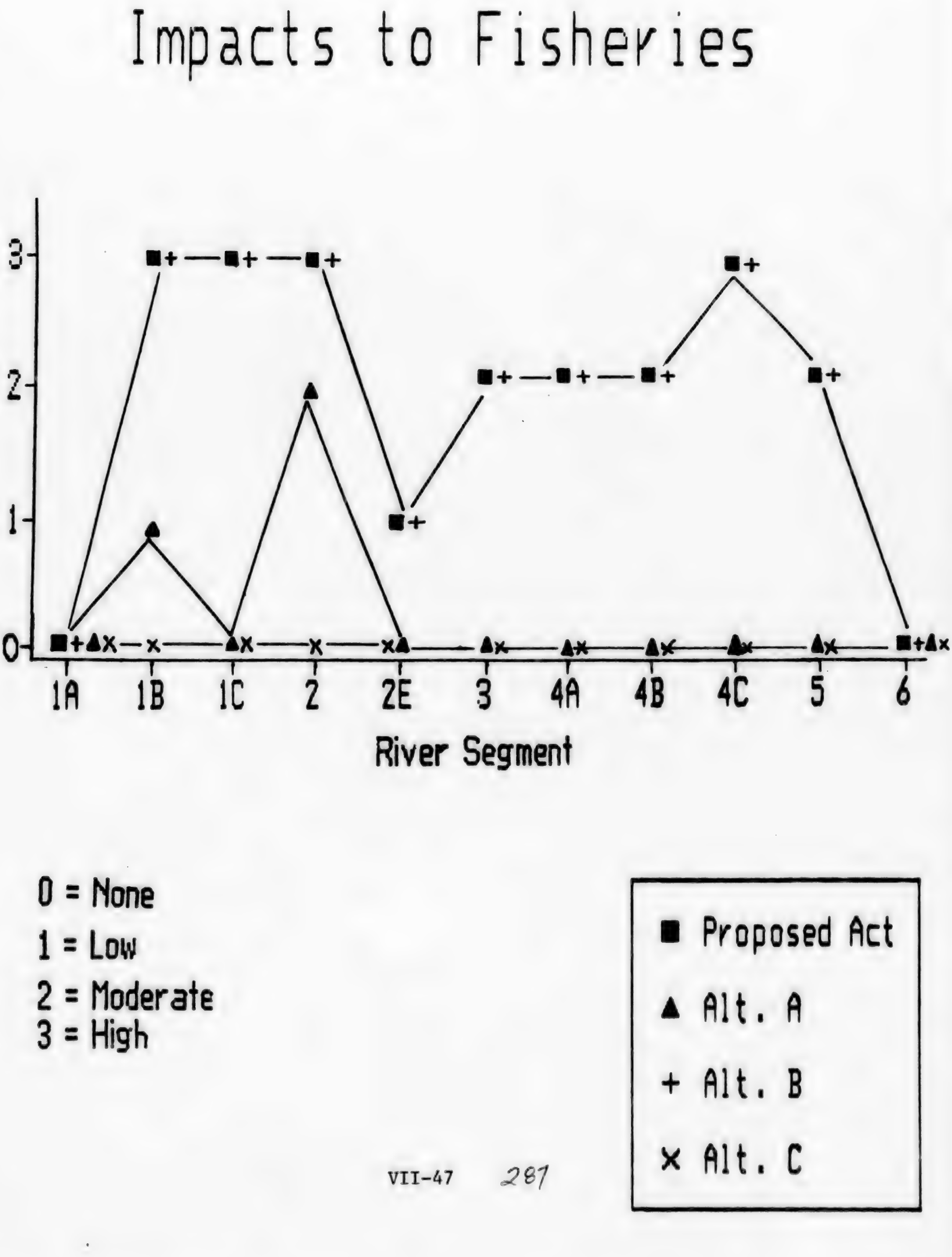
Impacts to trout from the proposed action range from no impact in Segments 1A and 6 (no boating or low boat numbers) to adverse impacts in Segments 1B, 1C, 2 and 4C. Determination of impacts was based primarily on river flows with 1,000 cfs being the critical flow. The proposed action does not limit boating numbers during late summer when low flows are more likely to occur. The numbers of boats that may float the river during low flows is extremely high in most segments. Segment 4C is a good example. From May 16 to Labor Day, 600 boats per day could float this segment. Launch windows allow boats to be launched from 8:30 a.m. to 5:00 p.m. A launch at 5:00 p.m. would terminate at approximately 6:30 p.m. These windows allow boats to be on the water for ten hours, or one boat every minute. If trout are affected as described by Bachman (1984), retreating to cover for 3 to 5 minutes after a bird flys overhead, or retreating for up to 30 minutes after being disturbed by a duck, boats could be a major impact. These impacts could increase after flows drop below 1,000 cfs which normally occurs in late July.

b. Mitigation

With the present boat numbers and launch windows outlined in the proposal, the possibilities for mitigation are limited. One mitigating measure could be to require 8-10 boat group launches designed to allow more time between boats thus allowing trout some undisturbed periods.

A detailed fisheries investigation program should be undertaken to collect information described in the Introduction. The results of the study would be used to determine impacts to fish and possible mitigation to alleviate impacts.

ILLUSTRATION VII-8



7. Access and Transportation

a. Impacts

Implementation of the Proposed Action would increase the probability of all types of highway accidents including vehicle/vehicle, vehicle/pedestrian/ and vehicle/train. The increase would be attributable to several sources, increased recreation traffic, a change in vehicle classification, more pedestrians, and a decrease in highway vehicle capacity. Not all of these changes would be present on all parts of the highway system nor would they necessarily all be present at the same time. Additionally, average figures for traffic volumes may not accurately portray traffic congestion problems during peak volume hours on peak volume days during the summer rafting season.

The present highway system appears to be able to carry the recent increase in traffic volume due to river running. This is due to the concurrent decrease in ADT (Average Daily Traffic) in the upper Arkansas Valley, U.S. Highway 24 and 285 and the slight increases in the lower valley on U.S. Highway 50. Under the proposed action, the ADT volume on U.S. 50 would increase from 362,923 vehicles to 442,423. All of the increase would occur during a relatively short period of the average day (6 hours) and most of this would occur in the 2:00 p.m. - 4:30 p.m. time period. Saturdays would continue to be the busiest day with up to 40 percent of the volume occurring on this day.

The most common vehicle type used by the commercial rafting industry (bus with trailer) is large, slow moving, and not very maneuverable. As a result of increases in the numbers of these vehicles using the highway system, there would be additional traffic congestion. The current estimate of these vehicle types would change from 12 to 20 percent of the total traffic.

Additional vehicles bringing more recreationists into the area would increase the number of pedestrians from 142,000 to 600,000 (rounded) by 1997 (a 323 percent increase). Many of these pedestrians would be in the vicinity of the highway system where the most serious accidents occur, and others would be found in or near parking lots or along the railroad tracks.

When traffic volume increases, the vehicle classification changes and there would be more pedestrians; they all interact to decrease highway capacity. There is no known way to integrate these four factors and predict the increased accident rate. The accident rate probability would increase greatest along U.S. Highway 50 because the number of change factors taking place along it, while U.S. Highway 24 and 285 have fewer changes occurring along them.

Highway capacity along U.S. 50 is currently estimated at 1200 vehicles per hour. This is under ideal driving conditions and assumes an even flow of traffic with no congestions, distractions, such as rafts, or unanticipated events occurring such as wildlife or pedestrian crossings. Under the proposal the highway capacity would continue to fluctuate widely depending on the time of day and the day of the week. Capacity would be reduced from 1200 vehicles per hours (vph) to an unknown lower volume. On the six busiest Saturdays of the year, during the busiest times (2 - 4:30

p.m.), at the developed recreation sites on U.S. Highway 50, capacity would be reduced considerably, resulting in large traffic jams, which are common in most large cities during rush hour. This situation would probably not occur on U.S. Highway 24 and 285, however, U.S. 50 would essentially be blocked during these times.

The probability of train/pedestrian accidents would increase. The number of trains would increase from average of two per day one way to six per day along with an increase of pedestrians from 142,000 to 600,000. Overall, the number of train/pedestrian accidents would be expected to remain low.

1) Highway construction costs would increase. The proposed action calls for seven major highway modifications in Segments 3 and 4 and numerous unidentified minor improvements. Estimated cost of the seven modifications would be $525,000-$700,000. The cost of other modifications would be in addition and based on how many would eventually be constructed. Fremont County road construction costs to the Beaver Creek Recreation Site would be estimated at $20,000.

2) Annual road maintenance costs average $2,000 per mile on gravelled roads and $3,500 per mile on paved roads. As traffic volume increases by 25-100, percent road maintenance costs could be expected to increase, but not necessarily proportionately. Annual maintenance costs to Chaffee County because of increased traffic would be estimated to double from $32,000 to $64,000. Fremont County maintenance costs could increase from $2,000 to $20,000 and Pueblo County costs from $7,000 to $14,000 per year. Maintenance costs on the major highways would likewise increase at an unknown rate but probably be at a lower rate than that identified for gravelled roads.

3) River user and highway traveler conflicts (accidents) would continue to occur. If use stays the same or reduces and more access points are acquired, conflicts would reduce, while if use increases and few or no more access points are acquired, conflicts would increase.

4) Key access needs were identified and prioritized in the plan. Acquisition of access (easements) to the river at these points or acquisition of property for recreational use would greatly improve access for the public benefit. Segment specific access acquisitions are shown in the following "Access Acquisitions" table. They are visually noted on the Realty and Access maps on file in the Canon City District Office.

Access Acquisitions

Segment 1 - Improve fisherman access throughout.
Improve boater access at Pine Creek Rapids, Railroad Bridge, and Frog Rock.

Segment 2 - New access in Buena Vista.
New site at Fishermans Bridge.
Additional property at Ruby Mountain.
One or two sites below Seidels.
New boater site at or above Big Bend.
New fishing easements from Big Bend to Salida.

Segment 3 - New fishing easement north of Vallie Bridge.
Improve fisherman access throughout.

Segment 4 - New boater site below Parkdale.

Segment 5 - New boater site in Canon City.

Segment 6 - Improve fisherman access at Florence, Hobson, and other areas throughout.
New boater site above Pueblo Reservoir Wildlife Area.
New boater site at Florence.

b. Mitigation

Standard safety highway engineering principles should be employed to reduce the probability of accidents as a result of impacts identified, i.e., traffic congestion, blind spots, etc. The following is a suggested but not inclusive list of design and other features for highways near recreational sites:

1) Construct turning lanes to principal developed sites (Segments 2, 3, 4, & 5).

2) Construct acceleration lanes from principal developed sites (Segments 2, 3, 4, & 5).

3) Construct deceleration lanes near principal developed sites (Segments 2, 3, 4, & 5).

4) Adequate traffic signs directing traffic and pedestrians (All segments).

5) Locate pedestrian paths away from the highway (Segments 3 and 4).

6) Road realignment to increase visibility (Segments 3 and 4).

7) Parking lots with over/underpasses when located on the opposite side of the highway from the river (Segments 3 and 4).

8) Eliminate wildlife turnouts near blind spots (Segments 3 and 4).

9) Restrict rafter use of the railroad right-of-way (All Segments).

10) Construct additional passing lanes (all segments) or develop a four lane highway, especially through segments 3 and 4.

11) Redistribute boating use to other days of the week to reduce the traffic congestion and avoid peak time/location occurrence.

Where conflicts arise or are known to exist, a new site nearby or improved traffic flow or some other acceptable corrective action must be made by the next summer season after identification.

A minimum of two new sites or easement acquisitions must be made each year until no needs are identified.

8. Noise

a. Impacts

The prescribed "quiet zones" would help alleviate some of the on-site user conflicts with private landowners, particularly for commercial trips which are supervised. Given the differences between commercial and private experience preferences, especially on Segment 2 where noise concerns are greatest and where commercial boater are less concerned with having peace and calm, it should be possible to reduce noise conflicts between private and ocmmercial boaters as well. However, such zones cannot be established everywhere, and concern over noise among boaters themselves would be expected to increase in direct proportion to crowding and user congestion (see Recreation section). That impact may end up displacing boaters who reach their threshold of noise tolerance to other rivers in the region. Every other available river in the region would still offer more opportunities for peace and quiet than would the Arkansas under the proposal.

In Segment 6, the noise of up to 100 boats per day would disturb the Great Blue Heron colonies on the lower river and could damage this segment's recreational capabilities. If these birds were displaced, they would no longer be around to be enjoyed by the recreationists.

The sizable increases in river boating campground use under the proposal would have an equivalent effect on noise in the primary USDA Forest Service campgrounds. Given that river-related camping use along would effectively use up all available capacity, one could expect some displacement of family camping because of a larger proportion of more noisy boating campers.

There would be increases in noise-related conflicts with fishermen, because of the increased boater use and lack of windows for fishing (see Recreation section).

b. Mitigation

Larger launch windows would allow fishermen more opportunity to be free of conflicts with boaters.

Require all commercial outfitters, as a condition of obtaining permits to run the river, to send all boatmen-guides to an annual DPOR sponsored user ethics workshop dealing with the noise and other environmental quality issues. Include noise prevention stipulations as part of all State River Outfitters Licenses for the Arkansas to address identified impacts.

Include in all brochures interpretive information on the negative effects of both onsite (i.e., on-river) and offsite (i.e. at campgrounds) noise pollution and ways of reducing it.

Impose group size limits on parties using Segment 6, affecting both numbers of people per group and boats per group.

9. Grazing Management

a. Impacts

Recreational developments in the proposed action would conflict with grazing at Fishermans Bridge, Hecla Junction and Five Points. These sites are the only developed area proposed for areas that are being grazed. Some conflict exists at these locations presently. This conflict consists of livestock getting into the recreation sites and bothering people by their presence. The presence of the people also causes stress for the livestock. Generally, the conflicts are minor. With increased use and development of these sites, it is expected recreation/livestock conflicts would increase at these three sites. Increased numbers of boaters and fishermen on the river would tend to interfere with livestock at the 19 known watering points. Increased recreational use of the Arkansas River would tend to increase other recreational use on the 24 grazing allotments adjacent to the river. This additional recreational use could cause stress on livestock because of vehicle traffic and open gates.

b. Mitigation

Mitigation of recreation/livestock conflicts could be accomplished through fencing of developed recreation areas, and maintenance of existing fences. Also, boundaries of existing grazing allotments could be administratively changed to exclude areas where recreation/livestock conflicts exist. Watering access to the river could be included within developments to reduce conflicts or alternative water could be developed away from the river. In areas where recreation use causes damage to vegetation outside of the developed recreation sites, barriers and signs could be erected to help prevent damage.

10. Safety

a. Impacts

Providing a safe environment for human use is as big a concern under the No Action Alternative as it is under the Proposed Action. The probability of an on-water or on-land accident increases as the numbers of people placed into a confined environment increases. The risk of people being trapped in the canyon areas by flood waters, falling rock, and mudslides also increases as use increases.

b. Mitigation

The flood hazard can be reduced by implementing a flood prediction and early warning system, coupled with evacuation plans and identification of "safe" areas. This would require cooperation between all managing agencies/entities emergency preparedness agencies and law enforcement agencies, etc.

All areas within flood plains should be identified and rated according to the hazard they possess. Use of these areas needs to be managed in order to minimize the danger to humans.

Several mitigating measures have been built into the Proposed Action and alternatives and more are presented under the other elements entitled Hazardous Wastes, Recreation, and Access and Transportation. Accidents will continue to occur even with mitigating measures being incorporated into the alternatives; especially on the water considering the high risk sport of river running.

C. Residual Adverse Impacts

This section describes those impacts which remain after mitigation is applied. These are unavoidable adverse impacts, and are presented in summary form. For a full understanding of these impacts it may be necessary for the reader to review the descriptions of impacts and mitigation contained in the preceding sections.

The analysis shows that after application of mitigation there would be no impacts to the following resource elements: Threatened and Endangered species, wilderness, visual, paleontological, and energy/minerals.

The proposed action will result in increased employment, fee collections, and construction of travel accommodations as previously described. These impacts, while not expected to be significant, will be of a larger magnitude than the other alternatives. Unavoidably, intergroup conflicts will continue to occur on and along the river corridor.

Despite inventories, public education and use supervision, some irretrievable losses of prehistoric and historic cultural resources will likely occur due to increased visitation.

Water runoff from parking lots will introduce small amounts of hydrocarbons and heavy metals to the river. This would not be sufficient to adversely impact water quality to any significant degree, nor would the increase in sediments described in the impacts to soils section.

The potential for an incident involving hazardous materials is always present, regardless of the application of mitigating measures. This potential raises proportionally as the number of vehicles and people increase within the corridor, especially between Salida and Parkdale Any loss of life as a result of an accident involving hazardous materials, would be an irreversible and irretrievable commitment of the human resource.

The public lands involved under this Proposal will unavoidably be encumbered by withdrawals, classifications and other prior existing rights, which will require public review prior to any of the proposed recreation facility developments. As increased public and private development occurs along the river corridor, it will become increasingly more difficult and expensive to obtain rights-of-way for transportation and utility facilities. The change in the recreation management entity from BLM to DPOR and the development of brochures, maps, signs, etc., reflecting this change may be perceived as a somewhat irreversible commitment of public land to state park use.

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Residual impacts to recreation resources and physical recreation characteristics include changes to a more facility-dependent character of the land on several segments. These would include a loss of Roaded Open Country character of Segments 1, 2, and 6 and a change from Highway Rural to Developed Urban in Segment 4. Adverse effects on recreationists include only a slight dislike for the resulting character classes on Segments 2 and 4 with a proportionate loss in user satisfaction. The relatively remote character of Segment 2, which help make it the most popular of all river segments, would be changed through more intensive use and facility development. Residual effects of the change on Segment 1 are expected to displace some of the dissatisfied private boaters from the highly valued Numbers section in particular.

Adverse effects that would remain on visitor use and social characteristics of the river would include increased crowding, user conflicts, and so forth resulting from projected 1997 increases up to 30 times what now occurs. Imposition of group size limits would help mitigate these adverse effects but only to some degree. Especially large increases in use on Segment 1 would again have the effect of displacing dissatisfied boaters. Crowding on Segment 2 would increase with intensively developed sites assuming a Developed Urban social character. Unresolved fisherman-boater conflicts would accompany a projected six-fold use increase by 1997 on Segment 3. Adverse effects to fishermen in Subsection C of Segment 4 would be extended to Labor Day with no reductions in peak season boating carrying capacities. Some loss of recreation experience is anticipated with the anticipated inability to maintain the Roaded Open Country social character of the Gorge in Segment 5. The impacts of boater-related camping on public camping accommodations would be only slightly mitigated by accompanying reductions in fisherman camping, causing high impact to National Forest campgrounds.

Impacts that remain to the managerial character of the river include adverse private boater reaction to increased governmental regulation of Segment 1 in particular. Adverse effects associated with the difficulty of managing high Segment 2 carrying capacities from several public and private access points, without further aggravating an already existing sense of crowding would remain. Intensive visitor management controls, law enforcement, and so forth on Segment 5 is expected to impact whitewater boaters who can presently run this segment in a Roaded Open Country managerial setting.

Other residual managerial impacts would include: the proposal's prohibition against providing visitor services if the private sector is already providing them; impacts of the proposal's failure to deal with already existing heavy visitor use levels and associated public crowding concerns; adverse effects of charging the same commercial fee from public lands outfitters as for privates; adverse impacts from requiring user fees of all private recreationists as well as for commercials; lack of toilets at the 10 Browns canyon lunch sites south of the railroad bridge; impacts from operating the area as much as possible on a user-funded basis instead of principally as a public resource; and designation of specific site development areas by the Advisory Committee and not by this plan itself. The administrative difficulty of administering very diverse carrying capacity prescriptions and boating launch windows by subsections and difficulty in conveying the same to the public are impacts that would also remain.

Under the proposal, short-term investments made during the developmental phase would greatly enhance the resource's long-term productivity for the kinds of recreation intended to be delivered under the proposal (see beneficial impacts in the impacts section). Resource opportunity costs forgone (e.g., maintaining the character of the land, facilities, and visitor use) would negatively affect the ability to produce kinds of recreation forgone in the long-term. All of the proposal's investments would determine the long-term character of Arkansas River recreation. On the whole, the proposal opts to forgo the status quo. On all but Segment #3, the proposal would implement short-term uses that spell out different kinds of recreation in the long-term from what now exists.

The proposal would have an irreversible effect on the kinds of recreation which the river could provide, particularly for changes which "move" areas to more facility-dependent settings. This is especially important for those segments where, because of the nature of implementing actions (e.g., facility developments, development of historial use patterns, etc.), prescribed objectives would be unachievable. Especially for physical character changes to the land and facilities, and to a lesser extent also social visitor use patterns, once changes are made they are virtually irretrievable.

Some slight soil erosion is unavoidable. Properly mitigated, the amount of soil erosion would compare favorably with natural rates from unimpacted sites. Some damage to vegetation will undoubtedly happen given the amount of people that would be in the corridor under this Proposal. No amount of enforcement can prevent all the trampling, breaking of branches, etc. that would occur. However, the overall production of vegetation would improve over its present condition.

Some impacts to wildlife will be unavoidable. The loss of usable habitat by bighorn sheep will have an adverse affect on the long term productivity of the herd. Increased stress will reduce sheep populations and loss of habitat will reduce carrying capacity. There will also be a loss of nesting waterfowl on the river which will accumulate yearly thereby affecting statewide production estimates. Similarly, mule deer/vehicle accidents will increase and will affect herd objectives in DOW management plans. One known heron rookery may be lost in river Segment 6 if mitigation is not applied or effective. Herons require mature cottonwood stands near water for nesting sites. These birds establish colonies and are extremely social. If a rookery is abandoned, all the birds will leave affecting the entire nesting colony. The lack of suitable nesting habitats in this area of Colorado makes this possible impact important, as it may adversely affect the productivity of this species in this area.

Conflicts between highway users and recreation area users should be reduced and a greatly improved recreational access situation should occur within ten years, once mitigation is combined with the Proposed Action. In the interim, highway capacity would be reduced but would remain sufficient. In the short term until all highway modifications and safety features were constructed, the rate of vehicle accidents would increase. Long term, the accident rate would probably return to current levels.

Increased boating use will result in increased noise levels which will tend to displace other non-boating uses of the river corridor. There will be a continuation of noise related impacts to fishermen in areas where conflicts between boaters and fishermen are unresolved in the proposed action. The

295

impact at public campgrounds will be especially noticeable to the quieter, more traditional family camper as the proportion of boater camping at these sites increases. Noise impacts to birdlife in river Segment 6 may cause birds to leave the river corridor and would therefore detract from the river's wildlife recreation features.

Increased recreational development and use would result in some unavoidable adverse impact to existing livestock grazing use. A small amount of land would be removed from grazing, livestock would occasionally get into fenced recreation areas because of fences being down, and increased numbers of people could at times produce stress for livestock watering at the river. These impacts would be negligible.

Although mitigating measures contained in this document should help minimize accidens they can never totally eliminate them. Permanently disabling accidents and death will continue to occur and will rise proportionately with the numbers of people within the area. This will result in an irretrievable loss of human resources.

D. Cumulative Impacts

Cumulative impact is that which results from the additive effect of the proposal and other past, present, or future regional actions. The regional actions taking place that have this cumulative effect when added to the proposals can be described as a general trend in the upper Arkansas River valley region away from agricultural and mining land uses toward recreational, tourism, and second mountain home land uses. The result is a much greater human use and residence in the region on a short term (i.e. summer) basis. There is a growing trend in the recreational use along the Arkansas River corridor. The cumulative effect of this plan will be to speed up that trend, up to carrying capacity limits, on the public lands under the Proposed Action and all alternatives and only for the Proposed Action and Alternative A for on-water related use. On-water use can grow with no limits under Alternatives B and C, theoretically, since there will be no on-water authority to regulate use. An increasing burden will be placed on the transportation system (refer to the access and transportation section) in terms of pure numbers of vehicles and a trend toward larger and slower moving recreational vehicles (including commercial rafting bus traffic. The cumulative increase in traffic will result in a greater safety problem and risk of a hazardous waste spill (refer to sections on safety and hazardous waste). A somewhat indirect cumulative impact on the local lifestyle will also result. Present resident and the mountain home site buyers may perceive the increase in tourists as an intrusion on their lifestyle. Theoretically, the economic benefit to the commercial river users will have an additive effect with other related business developments to increase employment and therefore economic well being within the region (refer to the Socio-Economics Section). The cumulative impact of this increasing human encroachment and activity on wildlife and their habitat will adversely affect wildlife population numbers, locations, and possibly the kind of wildlife present. This is particularly relevant because of the adverse affect on the wildlife's ability to use the river as a watering source (refer to the wildlife section). All of these cumulative impacts must be evaluated in light of the fact that use is predominantly in a 3 month summer period. The proposed action provides for the largest increase in human use when compared to the alternatives (602,213 boaters, up from 139,000 presently, a 433 percent increase).

Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		- Develop regulations protecting unique natural areas and wetlands to be inventoried			
		Subsection C: - Limit lunch stops by boats with more than 6 boats/party to designated sites	- Limit all lunch stops to designated sites (see 3a below)	- Limit all lunch stops to designated sites (see 3a below)	- Limit all lunch stops to designated sites (see 3a below)
		- Patrol river corridor to enforce limits on off-site use	- Patrol river corridor to monitor/keep use within prescribed limits	- Patrol public lands to monitor/keep use within prescribed limits	- Patrol public lands to monitor/keep use within prescribed limits
	d. Permits and Concessions	- Allow occassional boating events to be scheduled on this segment [See Area-Wide]	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (apart from public lands fees), at certain developed sites (through State Parks Pass), and also at certain campgrounds.	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR at certain developed sites (through State Parks Pass) and also at certain campgrounds.	Permits required for comm. users @ 3% gross receipts
	e. Emergency Services				Cooperatively provide basic S&R capabilities in conjunction with local governments
3. Facility Management	a. Site Development	- Minimize development of facilities until use levels warrant	- Construct facilities in priority order pending availability of funding and maintenance guarantees	- Construct facilities in priority order pending availability of funding and maintenance guarantees	- Construct facilities in priority order pending availability of funding and maintenance guarantees
		- Create scouting opportunities for all users without violating RR trespass	- Create scouting tunities for all users without causing user trespass on the RR		

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Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	Subsection A: - Buena Vista	- Complete boat chute	- Complete boat chute		
		- Focus on Buena Vista as the primary site, a major put-in/take-out, parking, improved launch, sanitation and changing rooms, picnicking sites, fishing access and traffic turn around.	- Focus on Buena Vista the primary site, a major put-in/take-out, parking, improved launch, sanitation and changing rooms, picnicking sites, fishing access and traffic turn around.		
		- Develop nature trail to Cottonwood Creek-Marquard Nature Area	- Develop nature trail to Cottonwood Creek-Marquard Nature Area		
	Subsection B: - Fisherman's Bridge	- Improve site, upgrading access and developing sanitation and changing facilities	- Improve site, upgrading access and developing sanitation and changing facilities	- Improve site, upgrading access and developing sanitation and changing facilities	- Improve site, upgrading access and developing sanitation and changing facilities
	Subsection C: - Ruby Mountain	- Develop site as a major put-in/take-out and lunch stop facility.	- Develop site as a major put-in/take-out and lunch stop facility.	- Develop site as a major put-in/take-out and lunch stop facility.	- Develop site for overnight river-based and other land-based use, and as a river boating lunch stop
		- Upgrade parking/provide for day & overnight use, sanitation facil., Class C 40-site CG ea. site w/ tables, changing facilities & fisherman's access	- Upgrade parking/provide for day & overnight use, sanitation facil., Class C 20-site CG ea. site w/ tables, changing facilities & fisherman's access	- Upgrade parking/provide for day & overnight use, sanitation, facil., Class C 20-site CG ea. site w/ tables, changing facilities & fisherman's access	- Upgrade parking/provide day-use and overnight camping facilities, and toilets (13 sites)
		- Provide drinking water	- Provide drinking water	- Provide drinking water	- Provide drinking water
		- Upgrade access road	- Upgrade access road	- Upgrade access road	- Upgrade access road
		- Erect signs to protect private property rights	- Erect signs to protect private property rights	- Erect signs to protect private property rights	- Post BLM boundaries
		- Develop environmental ed./interpretive program for site	- Develop environmental ed./interpretive program for site		
		- Maintain access across public lands to Brown's Canyon WSA and rock-hounding areas	- Maintain access across public lands to Brown's Canyon WSA and rock-hounding areas	- Maintain access across public lands to Brown's Canyon WSA and rock-hounding ares	- Maintain access across public lands to Brown's Canyon WSA and rock-hounding areas

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Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Browns Canyon	- Distribute BLM WSA brochure and info	- Distribute BLM WSA brochure and info		
		- Provide 8 low use lunch stop sites within WSA with temporary facilities (use only 4 at one time/6 on peak weekends) No toilets [porta jons/ rocket boxes rqd. of all comm. users]	- Provide 8 low use lunch stop sites within WSA with no actual facilities (use only 4 at one time/6 on peak weekends) (porta jons/rocket boxes rqd. of all comm./priv. users)	- Provide 8 low use lunch stop sites within WSA with no actual facilities (use only 4 at one time/6 on peak weekends) (porta jons/rocket boxes rqd. of all comm./priv. users)	- Provide 8 low use lunch stop sites within WSA with no actual facilities (use only 4 at one time/6 on peak weekends (porta jons/rocket boxes rqd. of all comm./priv. users)
		- Provide 10 lunch stop campsites with site hardening to prevent resource deterioration. No toilets nor other sanitation facilities (porta jons rqd. of all comm./priv. users)	- Provide 10 lunch stop campsites with site hardening to prevent resource deterioration. Provide vault toilets but require users to pack out all trash	- Provide 10 lunch stop campsites with site hardening to prevent resource deterioration. Provide vault toilets but require users to pack out all trash	- Provide 10 lunch stop campsites with site hardening to prevent resource deterioration. Provide semi-primitive toilets but require all users to pack out all trash
			- Develop walk-in access for fishermen to public lands on west side of river near Centerville; provide toilets at centralized parking area	- Develop walk-in access for fishermen to public lands on west side of river near Centerville; provide toilets at centralized parking area	
	- Centerville	- Establish fee campsite on west side of river, only river accessible; reservations rqd. for overnight use; day use open to everyone as a boating lunch stop Toilets and tables provided	- Establish fee campsite on west side of river, only river accessible; camping reservations made by lottery; day-use avail. on 1st come-1st served basis. Toilets, grills, tables provided	- Establish fee campsite on west side of river only river accessible; camping reservations made by lottery; day-use avail. on 1st come-1st served basis. Toilets, grills, tables provided	- Establish campsite on west side of river, only river accessible; camping reservations made by lottery;day-use avail. on 1st come-1st served basis. Toilets and grills provided
	- Hecla Junction	- Improve site sanitation; provide changing facilities, 30 tables and grates for day use, drinking water; widen and sign access road; improve comm. & priv. parking area; develop handicap accessible nature trail	- Improve toilets and provide changing facilities, 15 tables for day use, drinking water; widen and sign access road; improve parking areas and traffic flow	- Improve toilets and provide changing facilities, 15 tables for day use, drinking water; widen and sign access road; improve parking areas and traffic flow	- Improve toilets and provide changing facilities, 10 tables for day use, drinking water; sign access road; improve parking areas and traffic flow

Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	Subsection D: - Lower Seidel-s/ Upper Stone Bridge	- Develop these sites as alternate takeouts to Hecla for boaters; provide sanitation facilities	- Develop these sites as alternate takeouts to Hecla for boaters and for fishing access, provide toilets	- Develop these sites as alternate takeouts to Hecla for boaters and for fishing access, provide toilets	- Develop these sites as alternate takeouts to Hecla for boaters and for fishing access; provide toilets
	Subsection E: - Big Bend	- Develop as alternate take-out to Hecla and put-in for Salida; provide restrooms and parking	- Develop as alternate take-out to Hecla and put-in for Salida; provide restrooms and parking		
	b. Maintenance	**Subsection C:** - Maintain hiking trail access from Ruby Mtn. to Browns Canyon WSA	- Maintain hiking trail access from Ruby Mtn. to Browns Canyon WSA	- Maintain hiking trail access from Ruby Mtn. to Browns Canyon WSA	- Maintain hiking trail access from Ruby Mtn. to Browns Canyon WSA
		[Regular maintenance will be provided for all developed facilities, re. DPOR]	Regular maintenance will be provided for all developed facilities	Regular maintenance will be provided for all developed facilities	- Acquire wherewithal to ensure regular maintenance of all facilities to be developed
	c. Restoration				
4. Access and Easement Acquisition	**Subsection A:**	- Acquire lands for additional public access in Buena Vista area	- Acquire lands for additional public access in Buena Vista area	- Acquire lands for additional public access in Buena Vista area	
	Subsection B:	- Seek to acquire an additional site at Fisherman's Bridge for river access & day use	- Seek to acquire an additional site at Fisherman's Bridge for river access & day use	- Seek to acquire an additional site at Fisherman's Bridge for river access & day use	
	Subsection C:	- Acquire additional lands for public rec. use in Ruby Mtn. area	- Acquire additional lands for public rec. use in Ruby Mtn. area	- Acquire additional lands for public rec. use in Ruby Mtn. area	- Acquire additional lands for public rec. use in Ruby Mtn. area
	Subsection D:	- Acquire one (two if feasible) put-in/take-out sites below Seidel-s and above...	- Acquire one put-in/ take-out site below Seidel's...	- Acquire one put-in/ take-out site below Seidel's...	- Acquire one put-in/ take-out site below Seidel's...
	Subsection E:	- ...& at Big Bend	...& at Big Bend	...& at Big Bend	
		- Promote new DOW fishing easements	- Acquire additional fisherman access contiguous with DOW fishing leases	- Acquire additional fisherman access contiguous with DOW fishing leases	

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Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		- Promote new fishing easements	- Promote new fishing easements	- Promote new fishing easements	
5. Administration	a. Coordination with Others				
	- BLM	- Review results of 1989 investigations for consistency with mgmt. prescriptions with BLM	- Review results of 1989 analysis of consistency w/ mgmt. prescriptions with BLM	- Review results of 1989 analysis of consistency w/ mgmt. prescriptions with BLM	
		- BLM & DPOR will review allocation systems annually, after implementation, using a river advisory committee	- BLM & DPOR will review allocation systems annually, after implementation, coordinating w/ a river advisory committee		
	- Advisory Committee	- Provide results of 1989 prescriptions consistency review to organizations represented on the Advisory Committee [i.e., that developed this proposal]	- Provide results of 1989 prescriptions consistency review to river advisory committee	- Provide results of 1989 prescriptions consistency review to river advisory committee	
	- Others	- Cooperate w/ landowners to ensure that regs. are adequately enforced	- Cooperate w/ landowners to help enforce regs.	- Cooperate w/ landowners to help enforce regs.	
		Subsection A: - Work with county law enforcement officers to correct problems with boaters changing clothes at Johnsons Village	- Work with county law enforcement officers to correct problems with boaters changing clothes at Johnsons Village		
		Subsection E: - Work with the county to to improve safety problems at Stone Bridge	- Work with the county to reduce safety problems at Stone Bridge	- Work with the county to to reduce safety problems at Stone Bridge	- Work with the county to reduce safety problems at Stone Bridge
		- Work with City of Salida to provide parking, day-use, and changing facilities	- Work with City of Salida to provide parking day-use, and changing facilities		

Segment #2 - Buena Vista to Salida

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	b. Studies and Monitoring	- Investigate consistency with mgmt. prescriptions in 1989	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptns. annually
		- Inventory all riverine areas that warrant special consideration or protection	- Inventory all riverine areas that warrant special consideration or protection		
		- Identify other problem areas needing special resource protection			
		- Conduct bi-annual user surveys during the first two years to measure user perceptions, especially crowding	- Conduct user preference survey in three years to replicate 1981 National River Recreation Study	- Conduct user prefernece survey in three years to replicate 1981 National River Recreation Study	- Conduct user preference survey in five years to replicate 1981 National River Recreation Study
		- Inventory and develop day-use areas			
		- In Subsection C, inventory all present sites along river			
	c. Staffing				Use SCA volunteers to provide on-the-ground signing and visitor awareness, information, and education contacts. Equip seasonal staff with basic S&R & First Aid training
	d. Special Equipment and Procurement				Contract with local high schools in developing and placing signing/interpretation projects, working cooperatively. Enter into CAs with local govt. to cooperatively provide Emergency Services

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Segment #3 - Salida to Vallie Bridge

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
B. IMPLEMENTING ACTIONS					
1. Resource Management	a. Protection	- Identify specific points for stream improvement projects	- Identify specific points for stream improvement projects		
			- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erision vegetation trampling, littering, etc.)	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)
	b. Rehabilitation	- Restore 7 1/2 miles from Stockyards Bridge to Badger Creek for Gold Medal fisheries desig.	- (see 5a)	- (see 5a)	- (see 5a)
2. Visitor Management	a. Visitor Information and Interpretation	- Develop brochures and signs explaining non-commercial opportunities; distribute at Ranger stations and at brochure boxes at Salida boat ramp, Cottonwood Rapid and wildlife pullout areas - Install educational/informational signs at wildlife pullout areas - Post flash flood warning signs above Badger Creek and all other danger areas	- Develop/distribute an informational/interpretive map-brochure conveying: o types of recreation available and their location o the plan design and carrying capacities/mgmt. measures o law enforcement procedures o the DPOR-BLM partnership agreement for the recreation area o user fee requirements o environmental/conservation stewardship use ethic	- Develop/distribute an informational/interpretive map-brochure conveying: o types of recreation available and their location o the plan design and carrying capacities/mgmt. measures o law enforcement procedures o the DPOR-BLM partnership agreement for the recreation area o user fee requirements o environmental/conservation stewardship use ethic	- Develop/distribute an informational/interpretive map-brochure conveying: o types of recreation available and their location o the plan design and carrying capacities mgmt. measures o user fee requirements o environmental/conservation stewardshipi
			- Post information signs: o flash flood dangers o boating/fishing regs. o permits & fees rqd. o river use ethics o public lands/private property boundaries	- Post information signs: o flash flood dangers o boating/fishing regs. o permits & fees rqd. o river use ethics o public lands/private property boundaries	- Post inforomation signs o flash flood dangers o permits & fees rqd. o public lands/private property boundaries

Segment #3 - Salida to Vallie Bridge

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	b. Indirect Controls	- Redirect boating use as required - Designate Rincon as a day-use area with option to re-designate overnight later if needed to accommodate use	- Provide on-the-ground visitor awareness information & education through area-wide users guide and limited informational signing - Provide day-use sanitation facilities, tables, toilets and fire rings at Rincon and Salida East	- Provide on-the-ground visitor awareness information & education through area-wide users guide and limited informational signing - Provide day-use sanitation facilities, tables, toilets and fire rings at Rincon and Salida East	- Provide on-the-ground visitor awareness info & education through area-wide users guide and limited informational signing - Provide day-use sanitation facil., tables toilets and fire rings at Rincon and Salida East
	c. Visitor Regulation and Enforcement				
	- Boat Launch Restrictions Types: Times/Days/Dates Sizes				
		- No launch windows	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
			7/15-5/14: All boat launches (Comm. & Priv.) from 10:00 am-1:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
	- Developed Site Restrictions (to keep use within prescribed site capacities):		Allocate use at same comm./priv. ratio as is prescribed for entire segment (see objectives)	Allocate site use at average comm./priv. use ratio for 2 yrs. immed. previous for each site	Allocate site use at average comm./priv. use ratio for 1 yr. immed. previous for each site
	- Others:	- Do not allow camping - Allow occassional boating events to be scheduled on this segment	- Do not allow camping - Allow occassional boating events to be scheduled on this segment	- Do not allow camping	- Do not allow camping
	d. Permits and Concessions	[See Area-Wide]	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (apart from public lands fees), at certain developed sites (through State Parks Pass), and also at certain campgrounds.	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR at certain developed sites (through State Parks Pass) and also at certain campgrounds.	Permits required for comm. users @ 3% gross receipts

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Segment #3 - Salida to Vallie Bridge

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	e. Emergency Servies				Cooperatively provide basic S&R capabilities in conjunction with local governments
3. Facility Management	a. Site Development	- Provide vehicle pullouts that are identified by DOW and other appropriate agencies for viewing watchable wildlife	- Provide vehicle pullouts between Longfellow Gulch and Maverick Gulch for viewing wildlife	- Provide vehicle pullouts between Longfellow Gulch and Maverick Gulch for viewing wildlife	- Provide vehicle pullouts between Longfellow Gulch and Maverick Gulch for viewing wildlife
		- Deemphasize river accessible wildlife pullouts to provide protecttion for the animals			
		- Improve/develop hiking & biking trails			
	- Salida:	- Provide 30-car parking and sanitation facil.	- Provide 30-car parking and sanitation facil.		
	- Salida East:	- Develop fisherman access, parking for 10 cars & sanitation facil.	- Develop fisherman access, parking for 5 cars & toilet facil.	- Develop fisherman access, parking for 5 cars & toilet facil.	- Develop fisherman access, parking for 3 cars & toilet facil.
	- Rincon:	- Provide 5-10 car parking for fishermen + 10 spaces for picnic sites for day-use; also sanitation facilities	- Provide 3-5 car parking for fishermen + 5 spaces for picnic sites for day-use, and improve existing toilets and sanitation facilities	- Provide 3-5 car parking for fishermen + 5 spaces for picnic sites for day-use, and improve existing toilets and sanitation facilities	- Provide 2-3 car parking for fishermen + 5 spaces for picnic sites for day-use, and improve existing toilets and sanitation facilities
	- Alkali Creek:		- Develop fisherman access	- Develop fisherman access	- Develop fisherman access
	- Others:		- Develop better fisherman access contiguous with existing DOW fishing leases		
		- Provide parking for 5-10 new cars for a new site not yet identified			
		- Develop Class D semi-primitive comm./priv. boater CG (w/ segregated beach)			

152

Segment #3 - Salida to Vallie Bridge

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		- Improve highway access at Salida East, Rincon, Badger Creek, and others	- Improve highway access at Salida East, Rincon, and Badger Creek	- Improve highway access at Salida East, Rincon, and Badger Creek	- Improve highway access at Salida East, Rincon, and Badger Creek
	b. Maintenance	[Regular maintenance will be provided for all developed facilities, re. DPOR]	Regular maintenance will be provided for all developed facilities	Regular maintenance will be provided for all developed facilities	· Acquire wherewithal to ensure regular maintenance of all facilities to be developed
	c. Restoration				
4. Access and Easement Acquisition		- Promote new DOW fishing easement north Vallie Bridge - Develop better fisherman access	- Promote new DOW fishing easement north Vallie Bridge	- Promote new DOW fishing easement north Vallie Bridge	
5. Administration	a. Coordination with Others				
	- BLM	- Review results of 1989 investigations for consistency with mgmt. prescriptions with BLM	- Review results of 1989 analysis of consistency w/ mgmt. prescriptions with BLM - BLM & DPOR will review allocation systems annually, after implementation, coordinating w/ a river advisory committee	- Review results of 1989 analysis of consistency w/ mgmt. prescriptions with BLM	
	- Advisory Committee	- Provide results of 1989 prescriptions consistency review to organizations represented the Advisory Committee [i.e., that developed the proposal]	- Provide results of 1989 prescriptions consistency review to river advisory committee	- Provide results of 1989 prescriptions consistency review to riverr advisory committee	
	- Others:	- Develop cooperative agreement with Colorado Dept. Hwys. & counties to correct safety problems - Ellicit recommendations from Hwy. Dept. on solutions to safety problems	- Develop cooperative agreement with Colorado Dept. Hwys. & counties to correct safety problems - Ellicit recommendations from Hwy. Dept. on solutions to safety problems	- Develop cooperative agreement with Colorado Dept. Hwys. & counties to correct safety problems - Ellicit recommendations from Hwy. Dept. on solutions to safety problems	- Develop cooperative agreement with Colorado Dept. Hwys. & counties to correct safety problems

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Segment #3 - Salida to Vallie Bridge

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
			- Work with DOW, EPA, etc. to restore 7 1/2 mi. from Stockyard's Bridge to Badger Creek for Gold Medal designation	- Work with DOW, EPA, etc. to restore 7 1/2 mi. from Stockyard's Bridge to Badger Creek for Gold Medal designation	- Work with agencies involved to help restore Gold Medal quality of this segment above Badger Creek
	b. Studies and Monitoring	- Investigate consistency with mgmt. prescriptions in 1989	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptns. annually
		- Conduct random user counts	- Conduct random user counts	- Conduct random user counts	- Conduct random user counts
		- Identify areas where erosion problems can be eliminated			
	c. Staffing	- Seek volunteer help in completing stream improvement projects	- Seek volunteer help in completing stream improvement projects		- Use SCA volunteers to provide on-the-ground signing and visitor awareness, information, and education contacts. Equip seasonal staff with basic S&R & First Aid training
	d. Special Equipment and Procurement				- Contract with local schools in developing and placing signing/ interpretation projects working cooperatively. Enter into CAs with local govt. to cooperatively provide Emergency Services

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
B. IMPLEMENTING ACTIONS					
1. Resource Management	a. Protection	- Identify specific points for stream improvement projects that benefit fishing	- Identify specific points for stream improvement projects that benefit fishing - Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)	- Install management facilities (e.g, barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)
	b. Rehabilitation				
2. Visitor	a. Visitor Information	- Erect signs on highway at all developed sites and at all pull-offs and lookout spots, warning of vehicular & pedestrian traffic entering and leaving - Educate boaters to use one channel and fishermen the other, where feasible (use signs & brochures) - Develop brochures and signs explaining non-commercial recreation opportrunitites/distribute at Ranger station, wildlife pullout areas and fisherman access areas - Install educational/informational signs at wildlife pull-out areas - Provide educational and interpretive displays at all sites aimed at improving user ethics &	- At principle rec. sites post informational signs: o river boating regs. o fishing regs. and etiquette o permit and user fee requirements o conservation and stewardship ethics o private property rights anda recreation user privileges o support facilities, services, and opportunities available o educational signs at wildlife pull-outs o highway rec area entrance signs depicting BLM-DPOR partnership mgmt. o highway signs at all developed sites and pull-outs warning of vehicular & pedestrian traffic entering & leaving hwy. - Post all public lands (BLM) and affected	- At principle rec. sites post informational signs: o fishing regs. and etiquette o permit and user fee requirements o conservation and stewardship ethics o private property rights and recreation user privileges o support facilities services, and opportunities availabale o educational signs at wildlife pull-outs o highway rec. area entrance signs depicting BLM-DPOR partnership mgmt. o highway signs at all developed sites and pull-outs warning of vehicular & pedestrian traffic entering & leaving hwy. - Post all public lands (BLM) and affected State Land Board boun-	- At principle rec. sites post informational signs: o fishing regs. and etiquette o permit and user fee requirements o conservation and stewardship ethics o private property rights and recreation user privileges o educational signs at wildlife pull-outs o highway rec. area entrance signs depicting BLM-DPOR partnership mgmt. o highway signs at all developed sites and pull-outs warning of vehicular & pedestrian traffic entering & leaving hwy. - Post all public lands (BLM) boundaries along the river - Develop and dsitribute an informational/

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		enhancing user understanding of the area's uniqueness	State Land Board boun- along the river - Develop and distribute an informational/interpretive map-brochure communicting the same information as on the signs to build appreciation and understanding of: o types of recreation opportunities available & where to find them o wildlife pullouts o the plan design as it concerns carrying capacities and measures to be taken to keep use within established ceilings o resource and use monitoring studies underway to accomplish plan objectives o law enforcement procedures o The partnership agreement between BLM & DPOR under which the recreation area functions o environmental/conservation stewardship use ethic o the system-wide nature of the recreation o the interrelatedness of the resource and local communities	along the river - Develop and distribute an informational/interpretive map-brochure communicating the same information as on the signs to build appreciation and understanding of: o types of recreation opportunities available & where to find them o wildlife pullouts o the plan design as it concerns carrying capacities and measures to be taken to keep use within established ceilings o resoruce and use monitoring studies underway to accomplish plan objectives o law enforcement procedures o The partnership agreement between BLM & DPOR under which the recreation area functions o environmental/conservation stewardship use ethic	interpretive map-brochure communicating the same information as on the signs to build appreciation & understanding of: o types of recreation opportunities availaboe & where to find them o wildlife pull-outs o the plan design as it concerns carrying capacities and measures to be taken to keep use within established ceilings o resource and use monitoring studies underway to accomplish plan objectives o law enforcement procedures o environmental/conservation stewardship use ethic
	- Subsection C:	- Provide boater warning signs for dangerous rapids & river dangers below Parkdale			
	b. Indirect Controls and Conflict Resolution	- Convert Parkdale to private boater use but only after buying/leasing downstream public site to be segregated by user group	- After acquiring downstream public site, close the present Parkdale site to public access	- After acquiring downstream public site, close the present Parkdale site to public access	- After acquiring downstream public site, close the present Parkdale site to public access

156

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	**Proposed Action:*** Management and Development Proposal	**Alternative A:** Reduced Development	**Alternative B:** Land-Based	**Alternative C:** No Action
			- Provide on-the-ground visitor awareness information & education through interpretive and informational signing and an area-wide user's guide	- Provide on-the-ground visitor awareness information & education through interpretive and informational signing and an area-wide user's guide	- Provide on-the-ground visitor awareness information & education throughh information signing and an area-wide user's guide
	c. Visitor Regulation and Enforcement				
	- Boat Launch Restrictions: Types: Times/Days/Dates Sizes				
	(1) Subsection A	5/15-8/15: All boats launch 9:00 am-3:00 pm	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
		8/15-5/15: All boats launch 9:00 am-3:00 pm	7/15-5/14: All boat launches (Comm. & Priv) from 10:00 am-1:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
	(2) Subsection B	5/15-8/15: All boats launch 8:30 am-4:00 pm	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
		8/15-5/15: Only private boats, must launch 8:30 am-4:00 pm	7/15-5/14: All boat launches (Comm. & Priv.) from 10:00 am-1:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
	(3) Subsection C	5/15-Labor Day: All boats launch 8:30 am-5:00 pm	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
		Labor Day-5/15: All boats launch 9:00 am-4:00 pm	7/15-5/14: All boat launches (Comm. & Priv) from 10:00 am-1:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
	- Developed Site Restrictions (to keep use within prescribed site capacities):		Allocate use at same comm./priv. ratio as is prescribed for entire segment (see objectives)	Allocate site use at average comm./private use ratio for 2 yrs. immed. previous for each site	Allocate site use at average comm./priv. use ratio for 1 yr. immed. previous for each site

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Others:	- Allow special boating events to be scheduled	- Allow occassional boating events to be be scheduled		
		- [Restrict pedestrians from using highway wherever feasible, re. DPOR]	- Restrict pedestrians from using highway wherever feasible	- Restrict pedestrians from using highway wherever feasible	
	d. Permits and Concessions	[See Area-Wide]	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (apart from public lands fees),at certain developed sites (through State Parks Pass), and also at certain campgrounds.	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR at certain developed sites (through State Parks Pass) and also at certain campgrounds.	- Permits required for comm. users @ 3% gross receipts
	e. Emergency Services				- Cooperatively provide basic S&R capabilities in conjunctiion with local governments
3. Facility	a. Site Development	- Develop parking areas for 5-10 cars to accommodate fishermen at areas identified by DOW			
		- Improve fisherman access at sites designated by DOW			
		- Improve hiking/biking trails along this segment	- Develop off-hwy. trails where feasible to keep pedestrian traffic off hwy. & its shoulders	- Develop off-hwy. trails where feasible to keep pedestrian traffic off hwy. & its shoulders	- Develop off-hwy. trails where feasible to keep pedestrian traffic off hwy. & its shoulders
		- Develop/improve parking facilities for non-boater recreation			
	Subsection A: - Coaldale	- Improve fisherman access	- Develop access near Coaldale Bridge on public lands for fisherman use	- Develop access near Coaldale Bridge on public lands for fisherman use	- Develop access near Coaldale Bridge on public lands for fisherman use

Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Cottonwood Creek	- Develop a safer pulloff and improve fisherman access	- Develop a safer pulloff and improve fisherman access		
	- Cotopaxi	- Provide or improve private and commercial launch, vehicular access, lunch stop, and picnic facilities and fisherman access. Provide sanitation facil. - Seek sites above and below Cotopaxi for 5-10 car parking, 5-8 picnic tables, fishing access, boater access and sanitation facilities	- Improve vehicular access for fishing & boating, launch facilities, and provide toilets	- Improve vehicular access for fishing & boating launch facilities, and provide toilets	
	- Other sites	- Provide sanitation at other sites as needed			
	Subsection B: - Lone Pine	- Provide vehicular access, 15-25 picnic tables, sanitation facil., fishing access, priv. & comm. launch facil, and lunch stop areas for comm. use	- Improve vehicular access, provide 7-12 picnic tables, toilets, boat launching areas, and lunch stop areas for both priv. & comm.	- Improve vehicular access, provide 7-12 picnic tables, toilets, boat launching areas, and lunch stop areas for both priv. & comm.	- Improve vehicular access, provide 3-8 picnic tables, toilets, boat launching areas, and lunch stop areas for both priv. & comm.
	- Fernleaf Gulch	- Improve fisherman access	- Improve fishing access	- Improve fishing access	- Improve fishing access
	- Texas Creek	- Provide vehicular access for boating and fishing, provide or improve priv. & comm. launch facil., lunch stop areas for for comm. use, and sanitation facil. Improve fisherman access. Provide Class D river accessible campsite in the area	- Provide vehicle access for boating & fishing, provide priv. & comm. launch facil. & lunch stop areas, and toilet facilities. Also provide Class C campsite (to protect the resource)/lunchsite, with vault toilet, only river accessible		

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Maytag	- Provide vehicular, access, provide or improve priv. & comm. launch & fishing facil., lunch stop areas for comm. use, picnic tables, and sanitation facil. Provide Class C camping minus dump stas. & receptacles. Develop portage &/or scouting routes around rapid, enforcing RR track restrictions.	- Improve vehicle access for boating and fishing provide priv. & comm. launch facil. & lunch stop areas, and toilet facilities. Also provide Class C campsite/lunchsite, only river accessible, with toilets. Develop portage around rapid on south side of river.	- Improve vehicle access for boating and fishing provide priv. & comm. launch facil. & lunch stop areas, and toilet facilities. Also provide Class C campsite/lunchsite, only river accessible, with toilets. Develop portage around rapid on south side of river.	
	- Devil's Hole	- Develop portage &/or scouting route around rapid, enforcing RR track restrictions. Provide Class D camping and lunch site below rapid on north side of river.	- Develop portage around rapid on south side of river. Provide Class D campsite/lunchsite with vault toilets below rapid on north side of river, only river accessible	- Develop portage around rapid on south side of river. Provide Class D campsite/lunchsite with vault toilets below rapid on north side of river, only river accessible	
	- Other sites	- Provide sanitation at other sites as needed			
	Subsection C:				
	- Pinnacle Rock	- Provide picnicking and sanitation facil., vehicle pull-outs for viewing watchable wildlife, increase fishing access & boating access with more and better docking sites, provide more toilets and parking spaces for 25 cars	- Improve toilet facil., provide for picnicking, pull-outs for wildlife viewing, increase useable boat launching space, provide parking spaces for 12 cars	- Improve toilet facil., provide for picnicking, pull-outs for wildlife viewing, increase useable boat launching space, provide parking spaces for 12 cars	- Improve toilet facil., provide for picnicking, pull-outs for wildlife viewing, increase useable boat launching space, provide parking spaces for 8 cars
	- 3-Rocks	- Develop portage around rapid & scouting routes (on south side of river) while enforcing RR track trespass restrictions	- Develop portage around rapid on south side of river	- Develop portage around rapid on south side of river	- Develop portage around rapid on south side of river
	- Salt Lick	- Provide or improve comm. launch & vehicular access facilities, provide lunch stop areas	- Improve comm. & priv. launch & vehicle access & parking for 12 cars	- Improve comm. & priv. launch & vehicle access & parking for 12 cars	- Improve comm. & priv. launch & vehicle access & parking for 6 cars

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Five Points	- Provide sanitation facilities, provide or improve private launch facil., provide parking for 20 vehicles for boat launches and a site south of the hwy., develop portage &/or scouting routes around the rapid while enforcin RR track trespass restrictions, improve fisherman access	- Retain existing toilets, provide launch for both comm./priv., provide parking for 13 vehicles for fishing & boat launching.	- Retain existing toilets, provide launch for both comm./priv., provide parking for 13 vehicles for fishing & boat launching.	- Retain existing toilets, provide launch for both comm./priv., provide parking for 6 vehicles for fishing & boat launching. Retain camping area south of highway
	- Lower Floodplain	- Povide sanitation facilities	- Improve existing toilets & sanitation facilities & parking	- Improve existing toilets & sanitation facilities & parking	- Improve existing toilets & sanitation facilities & parking
	- Spikebuck	- Provide vehicle pullouts for viewing watchable wildlife	- Improve existing toilet facilities and parking	- Improve existing toilet facilities and parking	- Improve existing toilet facilities and parking
	- Parkdale	- Provide sanitation facilities, provide or improve priv. & comm. launch and vehicular access facil., provide lunch stop areas, improve fisherman access [From Segment #5: a major site to accommo-substantial use, also including 20 parking spaces & 15-20 picnic tables]	- Provide temporary toilet facilities until downstream site is acquired. Develop new site as the major put-in/take-out on this segment with priv. & comm. launch, lunch, vehicle access for fishing & boating, changing facilities, toilets & sani. facil., 10 parking spaces & 7-10 picnic tables	- Provide temporary toilet facilities until downstream site is acquired. Develop new site as the major put-in/take-out on this segment with priv. & comm. launch, lunch, vehicle access for fishing & boating, changing facilities, toilets & sani. facil., 10 parking spaces & 7-10 picnic tables	- Provide temporary toilet facilities until downstream site is acquired. Develop new site as the major put-in/take-out on this segment with priv. & comm. launch, lunch, vehicle access for fishing & boating, changing facilities, toilets & sani. facil., 7 parking spaces & 5-7 picnic tables
	- Other sites	- Provide sanitation at other sites as needed			
	b. Maintenance				- Acquire wherewithal to ensure regular maintenance of all facilities to be developed
	c. Restoration	- Improve [existing] picnic facilities at Cotopaxi, Lone Pine, Pinnacle Rock and other sites as identified			

161

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Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		- Improve [existing] sanitation facilities at Cotopaxi, Lone Pine, Texas Creek/Maytag, Salt Lick and Parkdale			
4. Access and Easement Acquisition		- Buy or lease property downstream from BLM's Parkdale site for public access, segregate use by user group, then convert Parkdale to private boating use only	- Buy or lease property downstream from BLM's Parkdale site for public access, segregate use by user group, then convert Parkdale to private boating use only	- Buy or lease property downstream from BLM's Parkdale site for public access, segregate use by user group then convert Parkdale to private boating use only	- Acquire lands downstream from BLM's Parkdale site for public access.
5. Administration	a. Coordination with Others				
	- BLM	- Review results of 1989 investigations for consistency with mgmt. prescriptions with BLM	- Review results of 1989 analysis of consistency w/ mgmt. prescriptions with BLM	- Review results of 1989 analysis of consistency w/ mgmt. prescriptions with BLM	
		- BLM & DPOR will review allocation systems annually, after implementation, using a river advisory committee	- BLM & DPOR will review allocation systems annually, after implementation, coordinating w/ a river advisory committee		
	- Advisory Committee	- Provide results of 1989 prescriptions consistency review to organizations represented on the Advisory Committee [i.e., that developed this proposal]	- Provide results of 1989 prescriptions consistency review to river advisory committee	- Provide results of 1989 prescriptions consistency review to river advisory committee	
	- Others	- Work with landowners and counties to alleviate safety problems at pedestrian bridges	- Work with landowners and counties to alleviate safety problems at pedestrian bridges	- Work with landowners and counties to alleviate safety problems at pedestrian bridges	
		- Work with Hwy. Dept. to develop pull-off/turn-in/passing lanes near all developed sites if at all feasible	- Work with Hwy. Dept. to develop pull-off/turn-in/passing lanes near major developed sites	- Work with Hwy. Dept. to develop pull-off/turn-in/passing lanes near major developed sites	- Work with Hwy. Dept. to develop pull-off-turn-in/passing lanes near major developed sites
	b. Studies and Monitoring	- Investigate consistency with mgmt. prescriptions in 1989	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptns. annually

Segment #4 - Vallie Bridge to Parkdale

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
			- Conduct user preference survey in three years to replicate 1981 National River Recreation Study	- Conduct user preference survey in three years to replicate 1981 National River Recreation Study	- Conduct user preference survey in five years to replicate 1981 National River Recreation Study
	c. Staffing	- Seek volunteer help in completing stream improvement projects	- Seek volunteer help in completing stream improvement projects		- Use SCA volunteers to provide on-the-ground signing and visitor awareness, information, and education contacts. Equip seasonal staff with basic S&R & First Aid training
	d. Special Equipment and Procurement				- Contract with local high schools in developing and placing signing/interpretation projects, working cooperatively. Enter into CAs with local govt. to cooperatively provide Emergency Services

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Segment #5 - Parkdale to Canon City

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
B. IMPLEMENTING ACTIONS					
1. Resource Management	a. Protection		- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)	- Install management facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)	- Install managaement facilities (e.g., barriers, signs, etc.) at principle use sites as needed to maintain resource character (i.e., prevent erosion vegetation trampling, littering, etc.)
	b. Rehabilitation				
2. Visitor Management	a. Visitor Information and Interpretation	- Provide boater warnings on the "expert" nature of the river below Parkdale, manmade hazards, and the absence of any takeout before the Gorge	- Provide boater warnings on the "expert" nature of the river below Parkdale, manmade hazards, and the absence of any takeout before the Gorge - Prepare maps showing recreation prescriptions for each subsection, including available types of recreation and the settings in which each occurs	- Provide boater warnings on the "expert" nature of the river below Parkdale, manmade hazards, and the absence of any takeout before the Gorge - Prepare maps showing recreation prescriptions for each subsection, including available types of recreation and the settings in which each occurs	- Provide boater warnings on the "expert" nature of the river below Parkdale, manmade hazards, and the absence of any takeout before the Gorge - Prepare maps showing recreation prescriptns. for each subsection, including available types of recreation and the settings in which each occurs
	b. Indirect Controls and		- Provide on-the-ground visitor awareness information & education through interpretive and informational signing and an area-wide user's guide	- Provide on-the-ground visitor awareness informatioin & education through interpretive and informational signing and an area-wide user's guide	- Provide on-the-ground visitor awareness information & education through information signing and an area-wide user's guide
	c. Visitor Regulation and Enforcement				
	- Boat Launch Restrictions: Types: Times/Days/Dates Sizes	Commercial: - no launches past Parkdale Bridge after 1:30 pm - launch size limited to 6 boats per launch	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable

Segment #5 - Parkdale to Canon City

Component	Measures/Location	**Proposed Action:*** Management and Development Proposal	**Alternative A:** Reduced Development	**Alternative B:** Land-Based	**Alternative C:** No Action
		Private: - allow launches at any time of day	7/15-5/14: All boat launches (Comm. & Priv.) from 10:00 am-1:00 pm, all boats off the river by 4:00 pm	Unmanageable	Unmanageable
	- Developed Site Restrictions (to keep use within prescribed site capacities):		Allocate site use at same comm./priv. ratio as is prescribed for entire segment (see objectives)	Allocate site use at average comm./priv. use ratio for 2 yrs. iimmed. previous for each site	Allocate site use at average comm./priv. use ratio for 1 yr. immed. previous for each site
	d. Permits and Concessions	[See Area-Wide]	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (apart from public lands fees),at certain developed sites (through State Parks Pass), and also at certain campgrounds.	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR at certain developed sites (through State Parks Pass) and also at certain campgrounds.	Permits required for comm. users @ 3% gross receipts
	e. Emergency Services				Cooperatively provide basic S&R capabilities in conjunction with local governments
3. Facility Management	a. Site Development	- Develop portage/scouting routes near dangerous rapids: Sunshine Falls, Sledge Hammer, etc.	- Develop portage/scouting routes opposite the railroad at Sunshine Falls and Sledge Hammer	- Develop portage/scouting routes opposite the railroad at Sunshine Falls and Sledge Hammer	
	- Parkdale	- Develop major site to accommodate substantial boating use. Provide parking for 20 vehicles, 15-20 picnic tables, sanitation facilities and fisherman access.	- Provide temporary toilet facilities until downstream site is acquired. Develop new site as the major put-in/take-out on this segment with priv. & comm. launch, lunch, vehicle access for fishing & boating, changing facilities, sanitation facilities, 10 parking spaces & 7-10 picnic tables	- Provide temporary toilet facilities until downstream site is acquired. Develop new site as the major put-in/take-out on this segment with priv. & comm. launch, lunch, vehicle access for fishing & boating, changing facilities, sanitation facilities, 10 parking spaces & 7-10 picnic tables	- Provide temporary toilet facilities until downstream site is acquired. Develop new site as the major put-in/take-out on this segment with priv. & comm. launch, lunch, vehicle access for fishing & boating, changing facilities, sanitation facilities, 7 parking spaces & 5-7 picnic tables

165

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Segment #5 - Parkdale to Canon City

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Parkdale South	- Considered potential development for parking facilities and trail access to the river for boaters and fishermen	- Develop parking facility and trail access to the river for boaters and fishermen	- Develop parking facility and trail access to the river for boaters and fishermen	
	- Others	- Acquire access at other spots wherever feasible			
	b. Maintenance				Acquire wherewithal to ensure regular maintenance of all facilities to be developed
	c. Restoration	- Remove man-made dangers along the Royal Gorge run	- Remove man-made dangers along the Royal Gorge run	- Remove man-made dangers along the Royal Gorge run	
4. Access and Easement Acquisition	Entire segment	- Acquire lands in the Canon City area for additional boater egress from the Royal Gorge	- Acquire lands in the Canon City area for additional boater egress from the Royal Gorge		
5. Administration	a. Coordination with Others				
	- BLM	- Review results of 1989 investigations for consistency with mgmt. prescriptions with BLM	- Review results of 1989 analysis of consistency w/ mgmt. prescriptions with BLM	- Review results of 1989 analysis of consistency w/ mgmt. prescriptions with BLM	
	- Advisory Committee	- Provide results of 1989 prescriptions consistency review to organizations represented on the Advisory Committee [i.e., that developed this proposal]	- Provide results of 1989 prescriptions consistency review to river advisory committee	- Provide results of 1989 prescriptions consistency review to river advisory committee	
	- Others	- Work with the city to to improve/develop boat ramp and take-out facilities	- Work with the city to improve/develop boat ramp and take-out facilities		
	b. Studies and Monitoring	- Investigate consistency with mgmt. prescriptions in 1989	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptns. annually

Segment #5 - Parkdale to Canon City

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	c. Staffing				Use SCA volunteers to provide on-the-ground signing and visitor awareness, information, and education contacts. Equip seasonal staff with basic S&R & First Aid training
	d. Special Equipment and Procurement				Contract with local high schools in developing and placing signing/interpretation projects, working cooperatively. Enter into CAs with local govt. to cooperatively provide Emergency Services

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Segment #6 - Canon City to Pueblo Reservoir

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
B. IMPLEMENTING ACTIONS					
1. Resource Management	a. Protection	- Identify specific points for stream improvement projects	- Identify specific points for stream improvement projects		
	b. Rehabilitation				
2. Visitor Management	a. Visitor Information	- Include information in park brochures concerning private lands to educate users	- Include information in park brochures concerning private lands to educate users	- Include information in park brochures concerning private lands to educate users	
		- Develop visitor information brochures and signs explaining rec. opportunities in the area and distribute them as appropriate	- Develop visitor information brochures and signs explaining rec. opportunities in the area and distribute them as appropriate	- Develop visitor information brochures and signs explaining rec. opportunities in the area and distribute them as appropriate	
		- Develop educational/ interpretive signs at all significant sites, highlighting watchable wildlife and bird life and environmental education	- Develop educational/ interpretive signs at all significant sites, highlighting watchable wildlife and bird life and environmental education		
		- Provide boater warning signs about river dangers (e.g., submerged logs, etc.)	- Provide boater warning signs about river dangers (e.g., submerged logs, etc.)	- Provide boater warning signs about river dangers (e.g., submerged logs, etc.)	
		- Encourage float fishing trips	- Encourage float fishing trips		
	b. Indirect Controls and Conflict Resolution				
	c. Visitor Regulation Enforcement				
	- Boat Launch Restrictions Types: Times/Days/Dates Sizes				

Segment #6 - Canon City to Pueblo Reservoir

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		Commercial: - Limit all launches to 9:00 am-3:00 pm - Float fishing trips exempted Private: - Allow launches at any time of day - No limits on float fishing trips	5/15-7/14: All boat launches (Comm. & Priv.) from 9:00 am-2:00 pm, all boats off the river by 4:00 pm excepting exclusive float fishing trips	Unmanageable	Unmanageable
			7/15-5/14: All boat launches (Comm. & Priv.) from 10:00 am-1:00 pm, all boats off the river by 4:00 pm excepting exclusive float fishing trips	Unmanageable	Unmanageable
	- Developed Site Restrictions (to keep use within prescribed site capacities):		Allocate use at same comm./priv. ratio as is prescribed for entire segment (see objectives)	Allocate site use at average comm./priv. use ratio for 2 yrs. immed. previous for each site	
	- Others:	- Limit lunch stop areas to the Florence and Hobson sites			
	d. Permits and Concessions	[See Area-Wide]	Fees required by DPOR for comm. & priv. river use, at certain developed sites (through State Parks Pass), and at certain campgrounds.	Fees required by DPOR at certain developed sites (through State Parks Pass).	
	e. Emergency Services				
3. Facility Management	a. Site Development	- Improve/develop hiking and biking trails along this segment			
	- Florence	- Develop "limited maintenance" river access site, parking areas for 5-10 cars to accommodate fishermen and boaters, lunch stop areas, picnic and sanitation facilities	- Develop "limited maintenance" river access site, parking areas for 3-5 cars to accommodate fishermen and boaters, lunch stop areas, picnic and sanitation facilities	- Develop parking area for 3-5 cars for picnickers, boaters, and fishermen. Includes rustic toilets.	
	- Hobson	- Develop "limited maintenance" river access for 5-10 cars to accommodate fishermen, and boaters with nature trails and sanitation facilities			

169

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Segment #6 - Canon City to Pueblo Reservoir

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
	- Beaver Creek		- Develop primitive campsite units south of the river to eliminate private land trespass and confine camping use to a manageable area in order to reduce resource impacts and to preserve the solitude. Include individual sites with primitive toilets and cleared areas for fire grates and tent pads to reduce wildfire potential. Also include limited information/interpretive signing. Only provide for public recreational access too these sites from the river.		
	- Swallows		- Develop primary take-out for this segment at Swallows, including boat ramp, sanitation facilities, and limited signing for interpretive & informational purposes	- Develop primary take-out for this segment at Swallows, including boat ramp, sanitation facilities, and limited signing for interpretive & informational purposes	
	- Pueblo Reservoir	- Develop boating ramp take-out and sanitation facilities			
	- Other sites	- Develop parking areas for 5-10 cars to accommodate fishermen at areas designated by DOW			
	b. Maintenance				
	c. Restoration				
4. Access and Easement Acquisition	Entire segment	- Provide for fishing access points at Florence, Hobson, & other points	- Acquire lands for campsite development on the south side of the river near Beaver Creek, and ensure legal access to the site for management		

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Segment #6 - Canon City to Pueblo Reservoir

Component	Measures/Location	Proposed Action:* Management and Development Proposal	Alternative A: Reduced Development	Alternative B: Land-Based	Alternative C: No Action
		- Acquire takeout site above Pueblo Reservoir			
		- Develop boater access at Florence	- Acquire boater access at Florence		
5. Administration	a. Coordination with Others				
	- BLM	- Review results of 1989 investigations for consistency with mgmt. prescriptions with BLM			
	- Advisory Committee	- Provide results of 1989 prescriptions consistency review to organizations represented on the Advisory Committee [i.e., that developed this proposal]	- Provide results of 1989 prescriptions consistency review to river advisory committee	- Provide results of 1989 prescriptions consistency review to river advisory committee	
	- Others	- Explore the possibility of allowing use through CF&I dam	- Explore the possibility of allowing use through CF&I dam		
		- Work with City of Florence on development of proposed recreation projects	- Work with City of Florence on development of propopsed recreation projects		
			- Work with local communities to determine if landowners/associations of same may be willing to cooperate with DPOR to provide lands for overnight camping near Beaver Creek		
	b. Studies and Monitoring	- Investigate consistency with mgmt. prescriptions in 1989	- Investigate consistency with mgmt. prescriptions annually	- Investigate consistency with mgmt. prescriptions annually	
	c. Staffing	- Seek volunteer help in stream improvement projects	- Seek volunteer help in stream improvement projects		
	d. Special Equipment and procurement				

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C. Implementation/Phasing

Implementation Phasing for Alternatives: — Years 1 and 2

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
1. Resource Management	a. Protection	Establish Limits Acceptable Change benchmarks (Alts. A & B)	Establish Limits Acceptable Change benchmarks (Alts. A & B)	Establish Limits Acceptable Change benchmarks (Alts. A & B)	Establish Limits Acceptable Change benchmarks (Alts. A & B)	Establish Limits Acceptable Change benchmarks (Alts. A & B)	Establish Limits Acceptable Change benchmarks (Alts. A & B)
			Complete boundary fence at Hecla to eliminate livestock/recreation user conflicts, still maintaining stock access for watering (Alts. A & B)				
			Lunch stops in Brown's Canyon WSA will not be developed; emphasize use dispersion and pack out all waste (Alts. A, B & C)				
	b. Rehabilitation		Modify drainage/traffic control to solve perennial flood damage at Hecla Junction (Alts. A, B & C)				
			Except as provided for below, close & where necessary, rehabilitate all existing undeveloped day-use sites (Alts. A, B & C)				
2. Visitor Management	a. Visitor Information & Interpretation	Develop/distribute an informational/interpretive map-brochure (Alts. A, B & C)	Develop/distribute an informational/interpretive map-brochure (Alts. A, B & C)	Develop/distribute an informational/interpretive map-brochure (Alts. A, B & C)	Develop/distribute an informational/interpretive map-brochure (Alts. A, B & C)	Develop/distribute an informational/interpretive map-brochure (Alts. A, B & C)	Develop/distribute an informational interpretive map-brochure (Alts. A, B, & C)
		Post informational signs (Alts. A, B & C)	Post informational signs (Alts. A, B & C)	Post informational signs (Alts. A, B & C)	Post informational signs (Alts. A, B & C)	Post informational signs (Alts. A, B & C)	Post informational signs Alts. A, B & C)

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Implementation Phasing for Alternatives: — Years 1 and 2 (continued)

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
		Post all public lands (BLM) and State Land Board boundaries along the river (Alts. A, B & C)	Post all public lands (BLM) and State Land Board boundaries along the river (Alts. A, B & C)	Post all public lands (BLM) and State Land Board boundaries along the river (Alts. A, B, & C)	Post all public lands (BLM) and State Land Board boundaries along the river (Alts. A, B & C)	Post all public lands (BLM) and State Land Board boundaries along the river (Alts. A, B & C)	
	b. Indirect Controls & Conflict Resolution	Provide on-the-ground visitor awareness info. & education through interpretive and informational signing & an area-wide user's guide (Alts. A, B & C)	Provide on-the-ground visitor awareness info. & education through interpretive and informational signing & an area-wide user's guide (Alts. A, B & C)	Provide on-the-ground visitor awareness info. & education through interpretive and informational signing & an area-wide user's guide (Alts. A, B & C)	Provide on-the-ground visitor awareness info. & education through interpretive and informational signing & an area-wide user's guide (Alts. A, B & C)	Provide on-the-ground visitor awareness info. & education through interpretive and informational signing & an area-wide user's guide (Alts. A, B & C)	Provide on-the-ground visitor awareness info. & education through interpretive and informational signing & an area-wide user's guide (Alts. A, B & C)
			Segregate comm. & priv. boater ingress & egress points at Hecla (Alts. A, B & C)				
			Improve traffic flow at Hecla Jct. by signing & ranger assistance on heavy use days (wknds & holidays (Alts. A, B & C)				
			Restrict both overnight and day use, commercial and private, to designated sites (Alts. A, B & C)				
	c. Visitor Regulation and Enforcement	When use exceeds carrying capacities allocate according as prescribed (Alts. A, B & C)	When use exceeds carrying capacities allocate according as prescribed (Alts. A, B & C)	When use exceeds carrying capacities allocate according as prescribed (Alts. A, B & C)	When use exceeds carrying capacities allocate according as prescribed (Alts. A, B & C)	When use exceeds carrying capacities allocate according as prescribed (Alts. A, B & C)	When use exceeds carrying capacities allocate according as prescribed (Alts. A, B & C)

Implementation Phasing for Alternatives: — Years 1 and 2 (Continued)

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
	d. Permits and Concessions	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (Alt. A only), at certain devel. sites, and also at certain campgrounds (Alts. A & B)	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (Alt. A only), at certain devel. sites, and also at certain campgrounds (Alts. A & B)	Permits required for comm. public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (Alt. A only), at certain devel. sites, and also at certain campgrounds (Alts. A & B)	Permits required for comm public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv. river use (Alt. A only), at certain devel. sites, and also at certain campgrounds (Alts. A & B)	Permits required for comm public lands users @ 3% gross receipts. Other fees required by DPOR for comm. & priv river use (Alt. A only), at certain devel. sites, and also at certain campgrounds (Alts. A & B)	Permits required by DPOR for comm. & priv. river use (Alt. A only), at certain devel. sites, and also at certain campgrounds (Alts. A & B)
3. Facility Management	a. Site Development		Complete Buena Vista boat chute (Alt. A) Provide 8 low use lunch stop sites within Browns Canyon WSA with no actual facilities (use only 4 at one time/6 on peak weekends)(porta jons rqd. of all comm./priv. users) (Alts. A & B)		At Five Points, retain existing toilets, provide launch for both comm./priv., provide parking for 13 (6 in Alt. C) vehicles for fishing and boat launching. Retain camping area south of highway (Alts. A, B & C)		
			Provide 10 lunch stop campsites in Browns Canyon below RR bridge with site hardening to prevent resource deterioration. Provide vault toilets but require users to pack out all trash (Alts. A & B)		At Parkdale, provide temp. toilet facilities until downstream site is acquired. Develop new site as the major put-in/take-out on this segment with comm. & priv. launch, lunch, fishing & boating, changing facil., toilets & sani. facil., & 13 parking spaces (10 for Alt. C) & 10-13 picnic tables (7-10 for Alt. C)(Alts. A, B & C)	At Parkdale, provide temp. toilet facilities until downstream site is acquired. Develop new site as the major put-in/take-out on this segment with comm. & priv. launch, lunch, fishing & boating changing facil., toilets & sani. facil., & 13 parking spaces (10 for Alt. C) & 10-13 picnic tables (7-10 for Alt. C)(Alts. A, B & C)	

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Implementation Phasing for Alternatives: —— Years 1 and 2 (Continued)

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
4. Access and Easement Acquisition			Acquire additional lands for public rec. use in Ruby Mtn. area (Alts. A, B & C) Acquire one put-in/take-out site below Seidel's (Alts. A, B & C) Acquire a put-in/take-out site at Big Bend (Alts. A & B) Acquire additional fisherman access contiguous with DOW fishing leases (Alts. A & B)		Buy or lease property downstream from BLM's Parkdale site for public access, segregate use by user group then convert Parkdale to private boating use only (Alts. A & B) Acquire lands downstream from BLM's Parkdale site for public access (Alt. C)		
5. Administration	a. Coordination with Others	Review results of 1989 analysis for consistency with mgmt. prescriptions with BLM (Alts. A & B)	Review results of 1989 analysis for consistency with mgmt. prescriptions with BLM Alts. A & B)	Review results of 1989 analysis for consistency with mgmt. prescriptions with BLM (Alts. A & B)	Review results of 1989 analysis for consistency with mgmt. prescriptions with BLM (Alts. A & B)	Review results of 1989 analysis for consistency with mgmt. prescriptions with BLM (Alts. A & B)	
		Provide results of consistency review to river advisory committee (Alts. A & B)	Provide results of consistency review to river advisory committee (Alts. A & B)	Provide resutls of consistency review to river advisory committee (Alts. A & B)	Provide results of consistency review to river advisory committee (Alts. A & B)	Provide results of consistency review to river advisory committee (Alts. A & B)	Provide results of consistency review to river advisory committee (Alts. A & B)
	b. Studies and Monitoring	Modify Frissell classif. scheme with BLM during winter 1989 (Alts. A & B)	Modify Frissell classif. scheme with BLM during winter 1989 (Alts. A & B)	Modify Frissell classif. scheme with BLM during winter 1989 (Alts. A & B)	Modify Frissell classif. scheme with BLM during winter 1989 (Alts. A & B)	Modify Frissell classif. scheme with BLM during winter 1989 (Alts. A & B)	

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Implementation Phasing for Alternatives: — Years 3 and 4

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
1. Resource Management	(no implementation phasing items)						
2. Visitor Management	(no implementation phasing items)						
3. Facility Management	a. Site Development	Above Rapid #4: #1 priority in Subsection B for boater & fisherman access & sanitation facil. (Alts.A & B) At Railroad Bridge: provide toilets, 30 cars day use parking, walk-in camping with tent sites, sanitation & water. Fisherman access under RR trestle (Alts. A & B) At Frog Rock: sanitation, 30 cars day use parking, boat launch & take-out (Alts. A & B)	Develop Ruby Mtn. site as a major put-in/take-out & lunch stop facil. (Alts. A & B) Provide 8 low use lunch stop sites in Browns Canyon WSA with no actual facilities (use only 4 at one time 6 on peak weekends) (porta jons rqd. of all comm./priv. users (Alt. C) Provide 10 lunch stop campsites in Browns Canyon (below RR bridge) with site hardening to prevent resource deterioration. Provide semi-primitive toilets but require users to pack out all trash (Alt. C) At Centerville: Establish fee campsite on west side of river, user accessible only by river; camping reservations made by lottery; day-use avail. on 1st come-1st served basis. Toilets, grills, tables provided (Alts. A, B & C)	Provide 30-car parking and sani. facil. at Salida (Alt. A)	At Coaldale: develop access near Coaldale Bridge on public lands for fisherman use (Alts. A, B & C) At Cottonwood Ck.: develop a safer pulloff & improve fisherman access (Alt. A) At Pinnacle Rock: imparove toilet facil., provide for picnicking, pull-outs for wildlife viewing, increase useable boat launch space, provide parking for 17 cars (Alts. A & B) At Three Rocks: Develop portage around rapid on south side of river (Alts. A & B) Salt Lick: improve comm. & priv. launch, access & parking for 12 cars (Alts. A & B)		At Pueblo Reservoir: develop boating ramp take-out with toilets and sani. facilities (Alts. A & B)

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Implementation Phasing for Alternatives: —— Years 3 and 4 (Continued)

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
			At Hecla Junction: improve toilets and provide changing facilities, 17 tables for day use, drinking water; widen & sign access road; improve parking areas & traffic flow (Alts. A & B) At Lower Seidels/ Upper Stone Bridge: develop these sites as alternate take-outs to Hecla for boates & fishing access, provide sanitation facil. & toilets (Alts. A, B & C) At Big Bend: develop as alternate take-out to Hecla & as put-in for Salida;; provide restrooms and parking (Alt. A)				
	c. Restoration					Remove man-made dangers along the Royal Gorge run (Alts. A & B)	
4. Access and Easement Acquisition				Promote new DOW fishing easement north of Vallie Bridge (Alts. A & B)		Acquire lands in Canon City area for additional boater egress from Royal Gorge (Alt.A)	Acquire takeout site above Pueblo Res. (Alts. A & B) Acquire small campsite in quiet areas near Hobson and Swallows (Alt. A)
5. Administration			Conduct user preference survey in three yrs. to repl. 1981 National River Rec. Study (Alts. A & B)		Conduct user preference survey in three yrs. to repl. 1981 National River Rec. Study (Alts. A & B)		

Implementation Phasing for Alternatives: —— Years 5 and 6

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
1. Resource Management (no implementation phasing items)							
2. Visitor Management (no implementation phasing items)							
3. Facility Management	a. Site Development	Below Crystal Lakes: #1 priority to provide for fishing access & sanitation facil. in Subsection A (Alts. A & B) Above Rapid #4: provide parking & sanitation facil. for boating access in conjunction with Rapid #4 development. Provide overnight use area to accommodate use (i.e., campsites, tables, grates, etc. (Alt. C) At Railroad Bridge: provide parking & sani. facil. for boating access in conjunction with RR Bridge development (Alt. C)	Fisherman's Bridge: improve site, upgrading access and developing sanitation and changing facil. (Alts. A & B) Ruby Mountain: develop site for overnight river-based and other land-based use, and as a river boating lunch stop (Alt. C) Browns Canyon: develop walk-in access for fishermen to public lands on west side of river near Centerville; provide toilets at at centralized parking area (Alts. A & B) Hecla Junction: improve toilets and provide changing facilities, 15 tables for day use, drinking water, sign access road, improve parking areas and traffic flow (Alt. C)	Salida East: develop fisherman access, parking for 5 cars with toilets and sani. facil. (Alts. A & B)	Cotopaxi: improve vehicular access for fishing & boating launch facilities, and provide toilets and sanitation (Alts. A & B) Lone Pine: improve vehicular access, provide 10-16 picnic tables (7-12 in Alt. C), toilets and sani. facil., launch and lunch stop areas for both priv. & comm. (Alts. A & B) Fernleaf Gulch: improve fishing access (Alts.A & B) Texas Creek: provide vehicle access for boating & fishing, provide priv. & comm. launch facil. and lunch stop areas, toilets & sani. facil. Provide Class C campsite/lunchsite only river accessible, with toilets (Alt. A)		Florence: develop "limited maintenance" river access site, parking for 3-5 cars to accommodate fishing and boating, lunch stop areas, picnic & sani. facilities (Alts. A & B) Hobson: develop "limited maintenance" river access for 3-5 cars to accommodate fishermen and boaters with sanitation facil. (Alts. A & B) Develop primitive campsite/lunch stop near Hobson to confine camping use within more manageable area. Include primitive toilets, fire grates, interpretive signs (Alt. A) Develop primitive campsite/lunch stop near Swallows for the same purpose as at Hobson (Alt. A)

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Implementation Phasing for Alternatives: —— Years 5 and 6 (Continued)

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
					Maytag: Improve vehicle acces for boating & fishing; provide priv. & comm. launch facil. & lunch stop areas, toilets & sani. facil. Provide Class C campsite/ lunchsite, only river accessible, with toilets. Develop portage around rapid on south side of river (Alts. A & B) Devil's Hole: Develop protage around rapid on south side of river. Provide Class C campsite/ lunchsite below rapid on north side of river, only river accessible (Alts. A & B) Pinnacle Rock: Improve toilet facil., provide for picnicking, pull-outs for wildlife viewing, increase useable boat launching space, provide parking spaces for 12 cars (Alt. C) Three Rocks: Develop protage around rapid on south side of river (Alt. C)		

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Implementation Phasing for Alternatives: — Years 5 and 6 (Continued)

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
					Salt Lick: Improve comm. & priv. launch and vehicle access & parking for 6 cars (Alt. C) Lower Floodplain: improve existing toilets & sani. facil. & parking (Alts. A & B) Spikebuck: improve existing toilets & sani. facil. & parking (Alts. A & B)		
4. Access and Easement Acquisition			Acquire lands for additonal public access in Buena Vista area (Alts. A & B) Seek to acquire an additional site at Fisherman's Bridge for river access & day use (Alts. A & B)				
5. Adminis-tratioin	b. Studies and Monitoring		Conduct user preference survey in five years to replicate 1981 National River Recreation Study (Alt. C)		Conduct user preference survey in five years to replicate 1981 National River Recreation Study (Alt. C)		

Implementation Phasing for Alternatives: — Years 7 and 8

--See Chapter V, Part B, for more specific detail on each action listed
(This table does not list actions that would be on-going year after year)

Component	Measure	Segment #1: Leadville to Buena Vista	Segment #2: Buena Vista to Salida	Segment #3: Salida to Vallie Bridge	Segment #4: Vallie Bridge to Parkdale	Segment #5: Parkdale to Canon City	Segment #6: Canon City to Pueblo Reservoir
1. Resource Management	(no implementation phasing items)						
2. Visitor Management	(no implementation phasing items)						
3. Facility Management	a. Site Development	Between Spring Creek & Holmes Gulch: develop fisherman access (Alts. A & B) At Clear Creek Reservoir: fishing access development (Alts. A, B & C)	Buena Vista: develop nature trail to Cottonwood Creek-Marquard Nature Area (Alt. A) Fisherman's Bridge: improve site, upgrading access & developing sani. & changing facil. (Alt. C)	Provide vehicle pullout between Longfellow Gulch and Maverick Gulch for viewing wildlife (Alts. A, B & C) Salida East: develop fisherman access, parking for 8 cars & sani. facil. (Alt. C) Rincon: provide 3-5 car parking for fishermen + 5 spaces for day use picnic sites, & improve existing toilets & sani. facil. (Alts. A, B & C) Alkali Creek: develop fisherman access (Alts. A, B & C) Develop better fisherman access contiguous with existing DOW fishing leases (Alt. A) Improve highway access at Salida East, Rincon, and Badger Creek (Alts. A, B & C)	Lone Pine: improve vehicular access, provide 7-12 picnic tables, toilets and sani. facil., launch & lunch stop areas for both priv. & comm. (Alt. C) Fernleaf Gulch: improve fishing access (Alt. C) Lower Floodplain: improve existing toilets & sani. facil. & parking (Alt. C) Spikebuck: improve existing toilets & sani. facil. & parking (Alt. C)	Parkdale South: develop parking facility and trail access to the river for boaters and fishermen (Alts. A & B) Royal Gorge: develop portage/scouting routes opposite the RR at Sunshine Falls & at Sledge Hammer (Alts. A & B)	
4. Access and Easement Acquisition		Acquire land at Pine Creek for fishing the upper stretches (Alts. A & B)					

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CHAPTER VI
AFFECTED ENVIRONMENT

GENERAL SETTING

The portion of the Arkansas River encompassed by this plan originates in the high mountains of the Sawatch and Mosquito ranges above the town of Leadville (elevation 10,100 feet) and feeds into Pueblo Reservoir (elevation 4,900 feet). This stretch of the river is approximately 148 miles long and is entrenched in a narrow canyon with mountainous and/or hilly terrain on either side. The Royal Gorge, located just upstream from Canon City, is the most impressive segment with narrow, nearly vertical canyon walls rising over 1,000 feet up from the river.

Streamflow in the river is derived from snowmelt, direct runoff from precipitation, transmountain diversions, return flows, reservoir releases, and groundwater inflow. The river floods from snowmelt each spring, usually during June. Peak flows are quite variable, depending upon the snowpack size and the weather. For example, peak snowmelt runoffs at Salida have ranged from under 2,000 cubic feet per second (cfs) to over 9,000 cfs. Runoff usually falls back below 1,000 cfs by mid or late July.

A. Critical Elements

1. Threatened and Endangered Species

The only two Federal and State listed endangered species that have the potential to occur in the area are the Bald Eagle and Peregrine Falcon. Therefore, discussion will be limited to these species.

a. Wildlife

1) Bald Eagle

The bald eagle (Haliaeetus leucocephalus) is a common winter visitor to the upper Arkansas Valley. Although certainly not numerous bald eagles use the cottonwood riparian areas during the winter months. Less than five birds would be found from Leadville to Canon City and up to five more birds from Canon City to Pueblo Reservoir. No bald eagles use the Arkansas River valley from approximately March through November. Use by eagles is so incidental that preferred or critical areas such as roosting or feeding sites have not been positively determined. However, the area from Fishermans Bridge to the mouth of Browns Canyon is frequented by bald eagles during the winter months.

2) Peregrine Falcon

The Peregrine Falcon (Falco peregrines) was once quite common in Colorado and the Upper Arkansas Valley. In 1973 only 11 territories were occupied in Colorado by peregrine pairs. Through the efforts of many individuals, organizations and agencies, the peregrine population in Colorado is showing encouraging signs of recovery. In 1987, 22 pairs fledged at least 55 young within the state (Peregrine-Operational Report).

Peregrine habitat may be divided into (1) nesting sites--the cliff or substrate upon which eggs are laid and young are reared; (2) hunting sites--the area where food is obtained; and (3) migration and wintering areas.

Eyries (Nesting Sites): Throughout the region, peregrines nest on cliffs, usually in mountainous areas or near rivers or lakes. Peregrines in the Rocky Mountains persist mainly on mountain cliffs and river gorges. Remaining occupied eyries exist on dominant cliffs which generally exceed 200 feet in height. Nests are situated on open ledges or potholes and a preference for a southern exposure increases with latitude.

Peregrines nest from the lowest elevations in the region to above 9,000 feet, however, nesting above 8,500 feet is rare. Peregrines nest in nearly all of the areas plant communities, and often several vegetational groups are adjacent to the eyries. In the Rocky Mountains, the majority of known remaining pairs are near ponderosa pine forest or pinyon-juniper woodland. Prey abundance and diversity provided by these situations are major factors in eyrie selection. Eyries are often adjacent to water courses and impoundments because of the abundance of avian prey which frequent such areas.

Hunting Areas: Peregrines may travel up to 17 miles from nesting cliffs to hunting areas. Flight speeds in excess of 60 miles an hour allow this falcon to hunt large areas with little effort. Preferred hunting habitats such as cropland, meadows, riverbottoms, marshes, and lakes attract abundant bird life.

Peregrines capture a wide variety of birds in these habitats. Blackbirds, jays, doves, shorebirds, and smaller songbirds are common food items. Remains of white-throated swifts and swallows are also occasionally encountered on nest ledges. Most prey species are struck from above at great speed, but they often evade the falcon's attack by aerobatics or diving to cover.

Migration and Wintering Areas: Little is known of post-breeding movements of adults or immature peregrines, but birds are occasionally reported in Colorado during the winter. However, it is believed that most peregrines migrate to Central and South America during the winter months.

The increase in peregrine populations and the attractiveness of the Arkansas River Valley to peregrines has increased the likelihood of birds occurring in the area. This has become evident in the last two years as three new eyries have been established in the river valley. In 1987 a pair successfully fledged young at Chalk Cliffs west of Nathrop and in 1988 a pair became established in the Royal Gorge near Canon City and in Beaver Creek near Victor. These sites were historic eyries which are typically the first to be reoccupied as populations recover. It is likely that new eyries will be established in the valley in the next several years. Suitable cliff sites, which typically are extremely high, overlook water and river gorges, and permit extensive views of the surrounding countryside are very common in the valley. The Arkansas River itself is significant for the peregrine. The river has created the nesting cliffs through erosional action and cut wide areas thorough forested country providing open expanses over which peregrines can hunt. The riparian habitat associated with the river system is home to numerous prey species favored by peregrines.

The increase in the peregrine population in the last several years throughout Colorado has occurred primarily due to the efforts of federal and state agencies working in cooperation with the Peregrine Fund of Boise, Idaho. The hacking of young falcons (placing month old birds in hack boxes on cliffs) has been a successful method of restocking peregrines to suitable habitats. The Peregrine Fund has had primary responsibility in operating the hack sites which are funded by the Federal agencies.

In Colorado, the hacking program was initially concentrated on the western slope where numerous historic eyries and cliff sites are located. As birds became reestablished, the Peregrine Fund shifted emphasis to the eastern slope of the state and in the last two years, no hack sites were operated in western Colorado. The availability of suitable hack sites and the large amount of public land in the Upper Arkansas Valley has made this area attractive for peregrine reestablishment.

In 1988, four hack sites were active in and around the Upper Arkansas Valley. These were Adobe Peak (USFS), Big Hole (BLM), Twin Mountain (BLM), and a site near Buena Vista (USFS). This concentrated effort to reestablish birds in this area is likely to continue until the recovery goal is attained. In 1987, 22 pairs occupied sites in Colorado. The Peregrine Fund anticipates meeting the goal of 31 producing pairs by 1990.

Although the peregrine falcon is still relatively rare and listed as endangered, the likelihood of encountering peregrines in the Arkansas Valley is increasing each year. However, the mobility and elusiveness of the bird will make it difficult to confirm sightings.

b. Plants

The Colorado Natural Areas Program is inventorying the elements of natural diversity of Colorado, including plant species that are rare, endemic, threatened or endangered throughout their range or in Colorado. In almost all cases these plants are in need of further research.

Colorado plant species are not protected by State statutes with the exception of the state flower, Colorado Columbine. None of the listed species are considered endangered; therefore, they would not be protected by the Federal Endangered Species Act of 1973. However, several of these plants are candidates for federal listing as threatened or endangered. The Colorado Natural Areas Program has defined six categories in which plants fall. They are defined as follows:

LIST 1 - Federal threatened or endangered plant species and species that are rare throughout their range, including a number of species which only occur in Colorado;
LIST 1* - Plant species presumed extinct;
LIST 2 - Plant species, which are rare in Colorado, but relatively common elsewhere within their range;
LIST 2* - Plant species presumed extirpated from Colorado;
LIST 3 - Plant species, which appear to be rare, but for which conclusive information is lacking;
LIST 4 - Plants of limited distribution or special interest which appear secure at this time.
State List - Numbers shown are plant species ranking within the State.

Four species, Eriogonum brandegei, Penstemon degeneri, Panthenium tetraneuris, and Mentzelia densa are on List 1 with the remaining two species Aquilegia chrysantha and Haplopappus fremontii on List 3.

Following is a discussion of the current status, range, significance, habitat, and management of each plant species of special concern which are known to occur in and around the Arkansas River valley. It is for some species quite incomplete, however for one plant species (Eriogonum brandegei), significant progress has been made towards protection of the site.

1) Eriogonum brandegei Rydb. - Brandegee Wild Buckwheat

Status: Federal Status 2 (under review for formal listing), State List 1.

Geographical Range - valley of the Upper Arkansas River in Chaffee and Fremont Counties, Colorado.

Significance: Has scientific, educational, and aesthetic significance, as a unique, endemic member of the Colorado flora. This species is important in the taxonomic study of the genus Eriogonum and displays an ability to colonize disturbed lands in the form of roadcuts. The genetic information contained in this species genotype could be used in research on the revegetation of disturbed lands. Chances of other populations not yet discovered is great. Population healthy and stable.

Habitat: White to grayish or pale, powdery clay banks and flats, in sagebrush stands or in open pinon-juniper woodland, with some limited amount of disturbance, 5700-7500 feet elevation.

Management: The Colorado Natural Areas Program in cooperation with the Nature Conservancy has proposed to designate a site in Chaffee County as the Droney Gulch State Natural Area. The site, consisting of 294 acres, is located in T. 50 N., R. 8 E., Sections 16, 17, 20, and 21. It lies immediately west of Highway 285 near Big Bend. The Droney Gulch site represents the best known occurrence in the world for this U.S. Fish & Wildlife Service Category 2 candidate species. The site contains approximately 3000 individuals of the species. Although most of the site is on public land administered by BLM, some plants occur on private land. The Nature Conservancy has proposed to buy the private lands thereby transferring them to BLM to be managed as a State Natural Area.

2) Penstemon degeneri Crosswhite - Degener Penstemon

Status: Federal Status 2 (under review for formal listing), State List 1.

Geographical Range: the known populations are concentrated in the area of the Royal Gorge, with one outlying population found in a similar habitat near Five Points Picnic Site in the Arkansas canyon.

Significance: P. degeneri is of scientific, aesthetic, educational, and potentially horticultural value. It has a high educational value, particularly when one considers its occurrence within the Royal Gorge Park and the potential for using it as an interpretive tool regarding plant ecology and endemism. The genus Penstemon has long been heavily utilized for horticultural purposes, particularly rock gardening. That this species has not found its way into the horticultural trade is probably based on its endemism and rarity.

Habitat: Found in pinon-juniper woodlands, in disturbed, rocky, reddish soil at 6000-6700 feet in elevation.

Ecology: Broad range of adaptability, heavy tourist traffic should be considered a negative interaction that may reduce its viability.

3) Parthenium tetraneuris (Barneby) - Barneby Feverfew

Status: Federal Status 2 (under review for formal listing) State List 1.

Geographical Range: Arkansas River Valley in eastern Fremont County, Chaffee County and in adjacent western Pueblo County, and also reported from southwestern El Paso County.

Significance: Has scientific, educational and aesthetic significance as a unique, endemic member of the Colorado flora. This taxon is important in the taxonomic study of the genus Parthenium and is able to colonize the limestone and shale barrens in the Arkansas River Valley. The genetic information contained in this genotype could be used in research on revegetation of disturbed lands. This taxon and its habitat could be studied to determine the factors of its endemism and would provide an outdoor classroom for study by students at the University of Southern Colorado.

Habitat: Forming low mats on barren clay hills and slopes, in clearings in pinyon-juniper forests, the soil usually alkaline and derived from light colored shale, 5200-5600 feet in elevation.

4) Mentzelia densa Greene - Royal Gorge Stickleaf

Status: Federal Status 2 (under review for formal listing), State List 1.

Geographical Range: Arkansas River, restricted to small portion of Arkansas River drainage in Fremont and Chaffee Counties.

Significance: Unknown.

Habitat: Unknown.

5) Aquilegia chrysantha var. rydbergii - Golden Columbine

Status: Federal Status 3C (former candidate for federal listing), State List 3.

Geographical Range: Southern Colorado, Fremont County.

Significance: Unknown.

Habitat: Moist, shaded rocks in damp places, springs.

6) *Haplopappus fremontii* spp. *monocephalus* - Singlehead Goldenweed

Status: Federal Status 2 (under review for federal listing), State List 3.

Geographical Range: Las Animas, Huerfano, Pueblo, Lincoln, Fremont, and Otero Counties.

Significance: Unknown, fairly widespread in southeastern Colorado.

Habitat: Plains and hills, 5500-6000 feet.

2. Wilderness

There are two Wilderness Study Areas (WSA) within the region covered by this environmental assessment. They are the McIntyre Hills WSA and the Browns Canyon WSA.

The McIntyre Hills WSA is located in Fremont County approximately 12 miles west of Canon City. The WSA lies approximately ½ mile south of the Arkansas River and U.S. Highway 50 in T. 18 S., R. 72 W., 6th P.M. It contains 16,800 acres.

The Browns Canyon WSA is located in Chaffee County approximately 6 miles south of Buena Vista and 7 miles northwest of Salida, Colorado. On the southern end the WSA is bounded on the west, for 4½ miles, by the Denver and Rio Grande River Railroad right-of-way (which parallels the Arkansas River for this stretch). Travelling north, the western boundary is the Arkansas River (for 2 miles) and then just over ½ mile of private land forms the remainder of the western boundary at Ruby Mountain, which is the northwest corner of the WSA. The WSA contains 6,614 acres all located east of the river in T. 51 N., R. 8 and 9 E., N.M.P.M. and T. 15 S., R. 77 and 78 W., 6th P.M.

Although the Arkansas River is not inside the WSAs, it has an obvious interrelationship with them. The river contains many fish species and is considered a good fishing area for brown and rainbow trout. The naturalness of the WSA enhances the recreation experiences of those using the river.

The WSAs were studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and were included in the Canon City District Wilderness Final Environmental Impact Statement (EIS) published in December 1987. The preferred alternative which the Director will recommend to the President in October of 1991 is for inclusion of the entire 6,614 acres of the Browns Canyon WSA into the National Wilderness Preservation System. The McIntyre Hills WSA will not be recommended for wilderness designation.

The President of the United States will make his recommendations to Congress by October 21, 1993, on which WSAs should be included into the National Wilderness Preservation System. During this interim period, the BLM is mandated by FLPMA to manage all WSAs in a manner so as "not to impair the suitability of such areas for preservation as wilderness".

3. Visual Resources

The area within the proposed action consists of about 1/3 mountainous terrain, 1/3 canyon topography and the remaining 1/3 of rolling hills and broad valleys. All of the area is located in the Southern Rocky Mountain physiographic province.

All landscapes have an identifiable character, regardless of size, location, or land use. This character is determined by the relationships between four basic elements: color, line, form, and texture.

The dominant colors in the area, which vary with the weather and the time of day and year, are the browns, reds, and greys of soils and rocks and the greens, yellows, reds, and browns of vegetation. Occasional blues, greens, and browns are added by the presence of water.

Lines are distinct in the layering of soils, changes in vegetation types, along ridgetops, and in drainage patterns. Form or topography varies from sheer-walled canyons to flat-topped mesas. Texture results from the different vegetative types and erosion patterns. The relationship of the four basic elements to the landscape features (soil, water, vegetation, and structures) gives the area character of natural ruggedness, remoteness, and openess.

The area is visually quite vulnerable to culture modifications such as changes to the natural landscape resulting from the activities of man. Those having the greatest visual impact are associated with early mining activities, development of ranches and farms, recent energy exploration and development and their related service facilities, and railroads.

Fences are probably the most common intrusion. Fences that were built by brushing out the fence line with a bulldozer are the most obvious.

Sharp lines have also been created by vegetation manipulation projects such as chaining, spraying, or plowing followed by seeding along powerline rights-of-way. These clearings and associated powerlines are noticeable near Canon City, Wellsville, Salida, and Leadville.

The magnitude of visual intrusions on public lands at present is low in comparison to total area and to private lands within the area. This is due primarily to the ruggedness and remoteness of the public lands, management restrictions, population distributions, and the vast acreage involved.

Visual Resource Management (VRM) classes have been established for the public lands. The manner in which they are determined is explained in BLM Manual Section 8400 on file in the Canon City District Office. Each VRM class describes a different degree of acceptable modification in basic elements (form, line, color, and texture) of the landscape. The classes are, therefore, the basis for determining whether or not a modification would result in a visual impact and, if so, what appropriate mitigating measures would be required.

Within the area there are three VRM management classes.

All of the proposed development sites on public lands are in Class II VRM zone. Management objectives in a Class II zone require that any changes in any of the basic elements (form, line, color, or texture) caused by management activity should not be be evident in the landscape. Any contrast may be seen but must not attract attention.

Other areas within the Affected Environment lie in either Class III or Class IV VRM zones.

Class III zones which are located along the river and mountain sides, are not areas of proposed development. Within Class III VRM zones, contrasts to the basic elements caused by management activity are evident but remain subordinate to the existing landscape. The towns and residential areas lie within the Class IV VRM zone. Here contrasts attract attention and are a dominant feature of the landscape.

4. Socio-Economics

a. Social Values

The residents within and immediately adjacent to the ESA (economic study area) constitute one population group that would be affected by the proposed action and alternatives. Two social characteristics of this group, population trends and social attitudes, are described in this section. The users and potential users of the area constitute another group and the social attitudes of this group are also discussed. It is estimated that 98 percent of users visit from outside the ESA.

1) Population Trends

The overall population trend for the area is an increase of 17.6 percent between 1980 and 2020 or a growth rate of .5 percent per year (see Appendix B, Population Trends by County). Chaffee County expects to increase 21 percent for the period while Fremont County is expected to increase 40 percent. On the other hand, Lake County is projected to decrease 64 percent over this period.

2) Social Attitudes

The BLM public comment record and selected interviews form the basis for the social attitude section.

The residents within and adjacent to the ESA have a variety of concerns and attitudes. Some do not want any change to the area while others look forward to change and growth in the area. Some see a positive affect on the local economy if management of the river changes. Based on the public record and selected interviews, it appears that most people in the area support and want economic growth for the area. Some in the area feel there are too many people already using the river and there is too much trespassing and crowding. Some residents want to return the river to the way it used to be - quiet without noisy rafters. Some feel that the possibility of State Parks developing lands adjacent to theirs will hurt the quality of their life, others feel ljust the opposite.

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There are many different users of the ESA river: Boaters (commercial and private), fishermen, picnickers, hunters, hikers, ORV users, campers, rock hounders, wildlife watchers, nature viewers, and people who may not want to use the area but are still concerned with the environment of the river. Each may have concerns about how and how much the river should be used for each activity. Some see rafting as being too large a part of the river's use, while others see that the river should be managed to allow more rafting. There are some that feel that better management of conflicts will lead to more use opportunity for all. There also exists conflicts between and among the different users. For example, some fishermen feel that the growth of rafting on the river has caused a reduction in fishing opportunities on the river. In general, and it varies by type of fishing (fly, bait, and tackle fishing), many fishermen cannot tolerate boating use in the same area where they are fishing. The reasons have to do with boats getting entangled with fishing lines or the noise of the rafters or the boats themselves being disruptive to the fish and to the fishermen. Thus the increase in boating use over the years has caused, to some extent, a decrease in fishing opportunities on the river.

b. Economic Conditions

The affected area of the economic analysis is limited to Chaffee, Fremont, and Lake Counties. Since economic data is available only in county units, the economic analysis is defined in terms of these counties. This area is the economic study area (ESA). Economic data for Pueblo County was not included in this analysis for the following reasons: 1) Lake, Chaffee, and Fremont represent a State Planning and Management Region while Pueblo County is part of another planning region, 2) Over 90 percent of economic uses on the Arkansas River occur in the ESA, 3) Since Pueblo County is larger than the other three counties, it could distort the impacts if included in the ESA.

1) Employment and Income

Employment figures for 1975, 1980, and 1986 for the ESA (Chaffee, Fremont, and Lake Counties) reflect an overall growth rate of 1.2 percent per year for that period (see Appendix B, Employment and Labor Income by County). Looking at the individual counties presents a different picture. Chaffee's employment over the period increased 38 percent or 3 percent per year. Fremont's County employment increased 41 percent or 3.2 percent per year. Lake County on the other hand decreased 55 percent or 7.1 percent per year for this period.

The Lake County decline in employment is largely attributable to the closure of the Amax Mine at Climax.

The unemployment rates for Chaffee, Fremont, and Lake Counties have generally exceeded the unemployment rate for the State as a whole. The higher unemployment is likely because of the area's dependence on mining and seasonal influences on the tourism industry.

Labor income has increased for Chaffee and Fremont Counties, but has declined for Lake County.

Government employment is the principal employment for the ESA and for the three counties for 1986. However, much of the employment data for Lake County cannot be released so that it is difficult to draw conclusions based on its employment distribution.

190

The historic economic backbone of Lake County and Leadville has been mining. With the idling of the Amax mine in Climax, the County has begun to turn more and more to its recreational resources as a means of maintaining the economy of the area. From a study on Transit Development Program prepared for Lake County, it was found that the largest areas of employments are in mining, government, and retail trade and services. Although a large group of employees in Lake County work in the recreational industry, most do so outside of Lake County.

Wholesale and retail trade and services sectors make up 47 percent of Chaffee County's employment in 1986 and 39 percent of Fremont County's employment.

Economic indicators for the ESA are presented in the following Retail Sales table.

RETAIL SALES
(in millions of dollars)

	1976	1980	1986
CHAFFEE	47.33	94.61	114.39
FREMONT	77.28	135.11	172.93
LAKE	27.57	52.74	37.72

Retail sales for Chaffee and Fremont Counties has increased over the 1975-1986 period. Lake County retail sales increased from 1975 to 1980 but declined from 52.7 million in 1980 to $37.72 million in 1986 down 28.5 percent. This decline is attributable to the county's high degree of dependence upon mining employment.

2) Local Finances

Counties, communities, and school districts usually have two types of budgets: operating and capital. Operating budgets consist of the expenditures needed for day to day functions, and include such items as salaries, maintenance costs, office supplies, etc. Funds to pay for operating expenses are obtained primarily from local revenue sources such as property taxes, sales, taxes, business licenses, etc., along with some monies from other government sources in the form of revenue sharing and similar transfers. Capital budgets consist of major expenditures required for new or expanded buildings, water and sewer systems capacity, fire fighting equipment, etc. and are generally funded by means of bond issues or grants from Federal or state governments.

The ability of local jurisdictions to issue general obligation bonds is limited by State law. The maximum amount of general obligation bonds that a jurisdiction may have outstanding at any one time is usually based on a percentage of assessed valuation. Determination of the future fiscal position of the jurisdiction requires projects of operating revenues, operating expenditures, bonding capacities, and capital requirements. Data was not available to make these projections for the ESA. But looking at the trends in assessed valuations for jurisdictions can give an indication of an areas ability to finance new capital expenditures that might be needed to accommodate growth.

Assessed valuation by county and entity are shown in Appendix B, Assessed Valuation by Entity. Chaffee and Fremont Counties and the local areas of Buena Vista, Salida, and Canon City have experienced increasing assessed valuations. Assessed valuations for the Lake County jurisdictions shows an increase for 1975 to 1980 followed by a decline from 1980 to 1986. Leadville, on the other hand, has experienced increases in assessed valuations for the period from 1980 to 1986.

3) Housing

Housing vacancy rates were all over 10 percent for 1980 and 1986. Vacancy rates less than 10 percent are indicative of a housing shortage (see Appendix B, Housing Units by County). Thus it would appear that most communities could absorb light to moderate growth with existing housing stock. Vacancy levels shown in Appendix B, Housing Units by County, should be read with caution because the housing stock does not indicate either physical condition or whether they are year round or seasonal units.

4) Campgrounds, Hotels, and Motels in ESA

Since much of the tourist use occurs during the summer season, it is important to look at the areas capacity to handle overnight visitors. The Division of Parks for Colorado surveyed users on the Arkansas River. The survey indicated that of the 46 percent of the users from outside the State 82 percent will stay in the valley one or more nights while 54 percent of the users are Colorado residents and 56 percent plan to stay in the valley one or more nights.

See recreation section for discussion on campgrounds and their capacity in the area.

Buena Vista hotels and motels can accommodate about 833 people and are usually at 100 percent capacity on season weekends and near that during the week. Salida can accommodate 1635 people and is usually at 100 percent capacity for most of the season. Lake County can accommodate about 1120 people and there is no data on the occupancy rate during the season. Data for Canon City was not available.

5) Travel in ESA

Appendix B, Impact of Travel on ESA Counties shows the impact of travel on ESA counties in 1984. Travel generated employment represents about six percent of ESA employment with 10 percent of Chaffee County employment related to travel; Fremont County has 4 percent of its employment related to travel; Lake County has 5 percent of its employment related to travel.

6) Local and Regional Contributions of Activities on the Arkansas River to the ESA

At the time of this writing, there are no up-to-date models specific to the ESA which could be used to measure total employment and income changes by alternative. However, RIMS II multipliers for Colorado were used to make estimates. The multipliers used were developed by looking at multipliers for the following sectors; transportation, hotels, and lodging places and amusements, and eating and drinking places.

192

The expenditures per user were developed from studies on the Colorado River (Public Information Corporation, 1987) and the U.S. Fish and Wildlife survey, 1980. It is estimated that $60 per day is spent in the area by persons rafting on the Arkansas River and the average fisherman spends $18 per day in the area. It was also assumed that the activity use represents users from outside the area. Expenditure information for bighorn sheep hunters is unknown and not estimated. Also the number of campers on the Arkansas River who do not also raft is unknown and expenditure information was not estimated.

The following table shows the contribution of recreation and fishing activities on the Arkansas River to the ESA for 1986. About 2 percent of the ESA areas employment and income is related to recreation and fishing activities on the Arkansas River.

CONTRIBUTION OF RECREATION AND FISHING ACTIVITIES ON THE ARKANSAS RIVER TO THE ESA, 1986

Activity	Total 2/ Expenditures	Total Labor Income 2/ Generated	Total Employment 2/ Generated	% of BLM Lands	% of Total ESA Employment	% of Total ESA Labor Income
Boating	16,073,136	5,225,288	416	88.0	2.0	2.0
Fishing	751,819	244,412	19	90.0	.1	.1
Bighorn Sheep 1/	(Not Estimated)					
Total	16,824,955	5,469,700	435		2.1	2.1

1/ No data on bighorn sheep expenditures.
2/ Includes multiplier effects.

7) National Values

The above expenditure data is used to measure economic effects on the ESA while National Values are defined as the net economic gain from an activity. Expenditures are important to local and state economies, but they do not reflect the total recreation value of the resource, which includes the personal benefits one receives from participation in that activity. Thus, national values measure these additional benefits. For example, the net gain or national value from a recreation activity is what the recreator is willing to pay over their actual costs to participate in the activity. Net gains are portrayed here on an annual basis.

These national values are estimated of "willingness to pay" (wtp). Wtp is easy to determine when goods and services are bought and sold in well-defined markets. However, recreation wtp values usually have to be estimated from secondary sources.

The willingness to pay values used in this analysis are from the Colorado BLM SAGERAM price files for 1986. The BLM SAGERAM price file is from the computer program to analyze Rangeland Investments. The file contains wtp prices from AUMs, hunting, fishing, and recreation days. The wtp value for boating per day is $13.20; fishing per day $4.15; and for each bighorn sheep $216.00 per day.

The following table shows the total national value estimated for activities on the Arkansas River in the ESA. The value is a little under $1.9 million per year for existing use. Because of lack of good information on camping and other on-site recreation, users wtp estimate for these activities was not made.

NATIONAL VALUES BY RECREATION, HUNTING AND FISHING
ACTIVITY, 1986
FOR ARKANSAS RIVER ESA

Activity	Unit	Estimated Annual Value
Boating	day	1,671,120
Fishing	day	81,917
Bighorn Sheep	number	115,560
Total		1,868,597

5. Cultural and Paleontological Resources

a. Cultural Resources

Evidence for man's existence in Colorado reaches from the present era back to the latter days of the last Ice Age. Throughout this time, the Arkansas River and its immediate environs have provided an ecological constant for human, flora and fauna communities; a subsistence refuge during periods of climatic hardship and, conversely, an area of abundance during more favorable times. Man's social and cultural processes are necessarily shaped in part by environmental factors. As prehistoric groups adapted and changed through time, the record of these dynamics is reflected in archaeological locations scattered the length of this river corridor. Unfortunately, only a relative few of these sites are recorded and most of these data are imperfectly known. These materials represent a very fragile and irreplaceable resource.

The Arkansas River has also figured prominently in modern history from the early days of Spanish explorers and French fur trappers to the present industrial era. Many of those characteristics attractive to aboriginal inhabitants - permanent water, minerals, rich earth, etc., have contributed to the more recent growth of this area in mining, agriculture, ranching, transportation and communication. Important sites related to these historical activities have been recorded and have been determined to be nationally significant. Many more have not been recorded and/or evaluated. Great care must be taken to assure that these irreplaceable resources are not lost to the national heritage or to future generations.

Known archaeological and historical sites occurring within the affected environment are on file at the Colorado Preservation Office (CPO) and represent only those locations recorded from occasional inventory on public lands.

The site numbers as well as brief notations of these sites have been extracted from available data in the CPO site files and are presented in Appendix C.

While these sites represent only a small percentage of the river corridor, they do reflect many aspects of mans activity through time.

194

Physical remains of recent history include the following:

Transportation - Stagecoach road from Denver to Leadville; stagecoach road up the Arkansas to Buena Vista; Denver South Park and Pacific Railroad; Colorado Midland Railroad; Denver and Rio Grande Railroad, Santa Fe, Atchinson and Topeka Railroad; DeReemer Forts of the "Railroad War."

Mining - Ghost towns, historic mining districts, kilns, and other remains from the extensive coke industry supporting mineral smelting.

Agriculture - Early farms, herding camps, and ranching.

Further inventory will "flesh-out" the continuum of prehistory and history. The significance of this area in Colorado history has been addressed in Land of Contrast: A History of Southeast Colorado, Athearn, 1985. A very positive opportunity exists to interpret these sites "in-situ" as an educational experience.

b. Paleontological Resources

The paleontology resources information has been derived from a Paleontological Inventory and Assessment prepared for the Royal Gorge Resource Area (Lindsey and Westlye, 1982). This report was limited to an assessment of areas where the BLM has management responsibilities (mineral or surface estate).

Geologic formations in the resource area were grouped into three categories: Class 1, 2, and 3. The class 1 areas are those having a high potential for scientifically significant fossils. In these areas, a paleontological evaluation will be done by a paleontologist or geologist, on a case by case basis, prior to any surface disturbing activities. These evaluations will be used to determine if a more detailed inspection is needed or if the area can be reclassified as class 2 or 3 as appropriate. Class 2 areas are those with evidence of fossilization, but the presence of fossils of scientific value has not been established, and is not anticipated. Detailed studies may be desirable in the future for the evaluation of all types of fossil collecting. Class 3 areas have little probability of finding fossils of use.

The following are generalized stratigraphic sections and respective classifications in relation to segments.

Segments 1 and subsections a, b, and c of segment 1 have a class 3 rating. No stratigraphic section is provided.

The following stratigraphic section applies to subsections d and E of segment 2, section 3, and subsection a of segment 4.

Period	Formation	Class
Tertiary	Dry Union	1
Permian-Pennsylvanian	Sangre de Cristo	1
	Minturn	2
	Belden	2

195

Mississippian	Leadville	2
Devonian	Chaffee Group	
	Dyer Dolomite	1
	Parting Quartzite	1
Ordovician	Fremont	2
	Harding Sandstone	2
	Manitou	2
Precambrian		3

The area of most concern would be in segment 3 from the Chaffee/Fremont County Line to Vallie Bridge where several Class 1 areas exist.

The following stratigraphic section and classifications would apply for the remaining portions of the river.

Period	Formation	Class
Tertiary		
Paleocene	Poison Canyon	2
	Raton	2
Upper Cretaceous	Raton	2
	Vermejo	2
	Trinidad Sandstone	2
	Laramie	2
	Fox Hills	2
	Pierre Shale	2
	Niobrara	2
	Carlile Shale	2
	Greenhorn Limestone	2
	Graneros Shale	2
Lower Cretaceous	Dakota Sandstone	2
	Purgatoire	2
Jurassic	Morrison	1
	Ralston Creek	2
	Entrada Sandstone	2
Permian	Lykins	2
	Lyons Sandstone	2
Permian-Pennsylvanian	Fountain	2
Ordovician	Fremont Limestone	1
	Harding Sandstone	1
	Manitou Limestone	2
Cambrian	Peerless Dolomite	3
	Sawatch Sandstone	3
Precambrian		3

An area of concern in this portion of the river would be the Parkdale area where Class 1 formations are present.

6. Water Quality

a. Chemical Quality

The chemical quality of water in the Arkansas River is influenced by ground water inflow, direct runoff from snowmelt or rainfall, mine drainage, diversions, return flows, variations in natural flow, reservoir releases, and water imported via transmountain diversions.

A commonly used indicator for chemical water quality is specific conductance. Specific conductance (commonly called conductivity) is a measure of how well the water conducts electricity, which reflects the amount of dissolved minerals (total dissolved solids or TDS) in the water. However, specific conductance does not indicate what type of minerals are in the water.

The headwaters of the Arkansas River are very pure, having conductivity readings of less than 100 micromhos per centimeter. Acid mine drainage near Leadville increases the conductivity of affected tributaries to around 900 microhos per centimeter (umhos/cm). Dilution by nonpolluted water reduces the specific conductance of the river to about 230 umhos/cm below Leadville. At this point, much of the conductance is due to heavy metals and sulphates in solution. Several tributaries containing bicarbonates further dilute and buffer the river until it reaches a conductivity to 170 umhos/cm at Granite. The buffering action of the bicarbonate water lowers the heavy metal and sulphate concentrations.

Although the conductivity drops to 145 umhos/cm by the time the river reaches Buena Vista, it gradually increases again downstream from this point. However, the conductivity now reflects increased concentrations of lighter metals including calcium, magnesium, and sodium, which are normally much less harmful to the environment than heavy metals.

The increase in conductivity from Buena Vista to Pueblo can be attributed to irrigation and municipal return flows, inflowing ground water, and storm runoff from lower elevation perennial and ephemeral tributaries. Note that the conductivity figures quoted above are averages, and do not reflect the large variations that occur from low to high flows. For example, during 1986, specific conductance of the river at Pueblo varied from 726 umhos/cm at 1120 cfs, to 223 umhos/cm at 2,230 cfs.

Between Granite and Pueblo, the river water is chemically suitable for municipal supplies, irrigation, stockwater, and recreational purposes.

b. Sediment and Turbidity

Sediment and turbidity are generally not noticeable in the river upstream from Buena Vista, except during the annual peak snowmelt period.

Downstream from Buena Vista, sediment and turbidity can be observed during snowmelt and after summer rainstorms. Sources of sediment during the summer include runoff from numerous ephemeral drainages and from perennial streams such as Trout Creek, Badger Creek, Bear Creek, and Texas Creek.

Colorado currently has no water quality standards for sediment or turbidity levels. However, turbidity in the Arkansas River below Salida is often sufficient to be objectionable to tourists, fishermen, and boaters. Also, sediment in the river is detrimental to aquatic life and adversely affects fish production.

c. Biological Quality

All natural surface waters contain coliform bacteria, which are used as indicators of biological contamination. The presence of fecal coliform bacteria (a subgroup of the coliforms) indicates recent contamination from the feces of warm blooded animals. Common sources of fecal coliforms in water include beaver, muskrats, feedlot runoff, and sewage discharge.

Although water quality standards exist for total and fecal coliforms in recreational waters, there is insufficient data to determine whether these standards are being met in the Arkansas River.

7. Hazardous Waste

Federal Superfund Amendments Reauthorization Act (SARA) Title 3 Legislation, enacted in 1986, requires all states to designate districts and have each district prepare a Hazmat Contingency Plan by October 17, 1988. Most counties in Colorado prepared a Local Emergency Operation Plan (LEOP), which addressed all major disasters. As a result of SARA, Colorado designated its counties as districts and required the Hazmat Contingency Plan be submitted as an annex to the county's LEOP. The annex was to avoid redundancy of evacuation plans, etc., already addressed in the LEOP. Committees were formed in each county in Colorado to identify and control storage, use, and transport of hazardous materials within their jurisdiction. The LEOP now includes all phases of emergency operations and responses for hazardous materials incidents as well as major flooding, accidents and other disasters, linking local, county, state, and federal governments as necessary, depending on the nature, scope, and location of the incident.

Transportation of hazardous materials along the Arkansas River between Leadville, Colorado and the Pueblo Reservoir occurs along the railroad and highway systems. U.S. Highway 50 parallels the Arkansas River from Parkdale to Salida, U.S. Highway 285 intermittently parallels the Arkansas River from Salida to Buena Vista, and U.S. 24 from Buena Vista to Leadville. Colorado Highway 291 crosses the Arkansas River twice between Salida and its intersection with U.S. Highway 285, approximately 10 miles northwest of Salida but does not parallel the river. Transport of hazardous materials can also occur over several bridges that cross the Arkansas River on roads that access U.S. Highway 50, U.S. Highway 285, U.S. Highway 24, and Colorado 291. Distances between the highway and river vary, but along over half of the distance, the river and highway are close enough that a spill of many types of hazardous materials would reach the river.

The Denver and Rio Grande railroad parallels the Arkansas River even more closely than the highway system. The distance between the railroad tracks and the river varies, but is usually less than the distance between highways and the river. Therefore, spills of hazardous materials on the railroad system also have the potential to reach the river.

As noted in the "Access and Transportation" portion of the Affected Environment, a merger of the Denver and Rio Grand Railroad and the Southern Pacific Railroad has taken place. This has the potential to increase the number of freight trains travelling on the railroad system from two per day each way to 6 per day each way, probably increasing the frequency of hazardous materials being transported.

Of the hazardous materials being transported along the Arkansas River from Leadville to Pueblo, the largest quantities are of gasoline, diesel fuel, propane, and various acids, such as sulfuric.

Although not treated directly as a hazardous material, human waste is also transported along the Arkansas River and is a concern for health reasons. Some human waste is chemically treated to reduce bacteria counts. Human waste not deposited in a portable toilet or other facility for disposal is not treated and is often deposited directly on the land along the Arkansas River, with concentrations varying with the number of people present and facilities provided.

B. Other Affected Resources

1. Realty

Realty deals with a number of different types of actions that affect the public lands such as:

- Lands disposal actions such as sales and exchanges.
- Lands withdrawals and classifications for a specified limited use or purpose.
- Lands authorizations such as rights-of-way, leases, permits, and easements (also refer to the Access and Transportation section).
- Lands acquisitions including exchanges and purchases of property or easements.
- Lands unauthorized use investigation and resolution.

None of the public land under consideration are identified for disposal in the Royal Gorge Management Framework Plan; however, some other properties in the general area were. Some small portions of the public land under consideration could be disposed of to help resolve unauthorized use

There are numerous land withdrawals and classifications of the public land under consideration. They are identified by segment in Appendix D & E and a brief discussion of their purpose, effect, and restrictions is included, as well as the holder of each. Each withdrawal and classification is a site-specific designation and is unique and different from any other. A thorough case file investigation is necessary for a complete understanding.

The public lands under consideration are encumbered by many rights-of-way and one lease. Each is identified with a brief discussion and the holder in Appendix D & E. All of these have a complete case file on the action and grant. The Arkansas Canyon has long been considered and utilized as a transportation and utility corridor.

Acquisition of property and easements along the river was identified as a goal and objective in the Royal Gorge Management Framework Plan. Specifically identified were the following parcels of property for acquisition for recreation.

T. 11 S., R. 80 W., Sec. 2, 11 (80 acres) east of the river

T. 14 S., R. 78 W., Sec. 5, 9, and 167 (115 acres) east of the river

T. 15 S., R. 78 W., Sec. 11, 13, 24, and 25; and
T. 15 S., R. 77 W., Sec. 30 all east of the river (200 acres)

T. 51 N., R. 8 E., Sec. 34 (35 acres) east of the river

T. 48 N., R. 11 E., Sec. 3; and T. 49 N., R. 11 E., Sec. 33 (45 acres) all north of the river.

There are many unauthorized lands uses on the public lands under consideration. Known unauthorized use include roads, commercial developments, signs, and fences. Prevention and resolution actions are currently being performed by the Bureau of Land Management.

NOTE: Site specific realty records are on file in cases (C, P, D. and L-Numbers), Master Title Plats, and on U.S.G.S. 7.5 minute topographic quadrangles, in the Royal Gorge Resource Area. A set of Master Title Plat copies (1-31) of the public lands under consideration with key inventory data recorded was prepared and is also on file in the resource area office.

The following is a tabulation of the approximate total acres within the proposal. Parcel specific acreage estimates can be found on "Realty & Access Maps" on file in the resource area office. The parcels are depicted on Illustration V-8.

Segment	Acres	Key Sites on Public Land & Acres
1	1308	Railroad Bridge 65 acres
2	2534	Ruby Mountain 40 acres, Fishermans Bridge 40 acres, and Hecla Junction 90 acres
3	386	Rincon 8 Acres
4	643	Five Points 40 acres, Pinnacle Rock 11 acres, and Parkdale 2 acres
5	184	None
6	0	None
Total	5055	296 acres

2. Energy/Mineral Resources

The Arkansas River from Pueblo to Leadville cuts through some of the most interesting and complex geology anywhere. Geologic formations ranging in age from 1.8 billion years (Precambrian) to recent are exposed in various locations along the canyon. Various rock lithologies in combination with faults and folding are present. This unique geologic environment has not gone unnoticed as numerous universities and other educational institutions utilize the region as a study area.

The area also has had a long and interesting history in mineral development and has a low to high potential for mineral development depending on location. Rocks and minerals including fluorite, industrial building stone, perlite, placer gold, sand and gravel, feldspar, pegmatites, and others have been discovered and mined in the Arkansas River Canyon.

The most significant aspects of the mineral industry in relation to this document are discussed in further detail. These include: Suction dredging, aggregate, placer mining, and mining claims.

a. Minerals

1) Suction Dredging and Panning

Suction dredging currently accounts for the largest amount of mineral activity along the Arkansas River corridor. Approximately 10-15 dredging operations are reported to occur along the river per year with an undetermined amount of nonreported activity. Normally, only one or two people operate the equipment and most dredging is considered recreational. The number of people conducting this activity has remained stationary over the last 5-6 years. Most operators work on weekends or on vacation time although a small minority conduct operations on a "commercial" scale. Suction dredging is regulated primarily through the U. S. Army Corps of Engineers. The operation generally includes use of a suction hose, a sluice or riffle box that floats or is stationary along the shore, an engine and pump, and several pieces of minor equipment.

Most operations are conducted under the authority of an "Army Corps of Engineers Nationwide Permit for discharges less than 10 cubic yards" in conjunction with "Management Practices for recreation gold dredging in the Arkansas River and its tributaries" in Colorado. These practices are designed to minimize adverse impacts associated with dredging (refer to Appendix I).

If a proposed dredging operation is on BLM lands, a separate notification to the Canon City District office is required. This notification relies heavily on the Army Corps of Engineers permits and allows the BLM to monitor and mitigate any additional concerns.

The most popular area for dredging appears to be from Granite to Buena Vista although activity has also occurred in other segments. The only public lands that would be closed to this activity would be within the Browns Canyon Protective withdrawal area, reservoir withdrawals, and other special withdrawals (refer to realty section).

Recreational gold panning also occurs along the Arkansas River. However, there is no available data on the amount of this activity.

2) Other Mineral Development

a) Aggregate

A significant portion of the river corridor between Leadville and Pueblo is bordered by terrace deposits of sand and gravel. These deposits have varying degrees of potential for aggregate production depending on their quality and accessibility. In general, sufficient quantities of sand and gravel exist outside the area and little demand exists for development of the river corridor deposits. Also, high visibility and amplified environmental concerns make these deposits less attractive than those outside the river corridor.

b) Placer Deposits

Terrace deposits along the river have been extensively explored for placer gold. Some of these deposits have been mined in the past leaving behind several areas in need of reclamation. This is particularly true in Segment 1 from the Twin Lakes area to Buena Vista. Present day activities in the terrace deposits have been restricted primarily to digging test pits and trenches that are subsequently reclaimed. This type of activity is regulated through the BLM and the Colorado Mined Land Reclamation division.

c) Other

Additional mineral development activities within the corridor have included fluorite mining near Hecla Junction, small-scale perlite mining in the Ruby Mountain area, and other minor development . None of this activity is occurring presently. Some of the older shafts and adits in the area have been identified within the State of Colorado's abandoned mines program for closure and reclamation.

3) Mining Claims

The areas listed in Appendix F are located along the Arkansas River and have the potential for recreational development. They were reviewed against the April 12, 1988, BLM records to determine if mining claims were present. Other than the limited activities of placing claim corners and location notices, surface disturbance does not result from locating mining claims. Surface disturbance involving mechanized equipment or explosives is managed under Colorado Mined Land Reclamation and BLM regulations. Mining claims are an encumbrance and may affect the issuance of a Recreation and Public Purposes (R&PP) lease (see Appendix V-8). On the other hand, these leases would also have the effect of a withdrawal on future mining claims.

The notation of a BLM serial number does not prove that a mining claim encumbers the proposed or existing development area; it only shows that a mining claim of record exists within the quarter or half section indicated. It can be anticipated that new mining claims will be located along the river corridor and others will be abandoned as time progresses.

3. Recreation

This narrative considers three different recreation components: the recreation resource, visitor use, and current management of those resources and their use by recreationists. Because the subject of this document is recreation, some of the material that would normally be included in this section has been previously presented in the introductory portions of Chapter I. To limit repetition of this material, those sections will be referenced as appropriate, and the following narrative will focus on presenting more detailed description of the affected environment.

The following narrative also includes information on Arkansas River user preferences. These data were obtained from four studies. The first and second studied only Arkansas River boaters using public lands on Segment 2, principally in Brown's Canyon, and public lands on Segment 4, principally from Texas Creek to Parkdale. The first was a cooperative effort with the BLM conducted in 1981 by the North Central Forest Experiment Station, U.S. Forest Service, as part of its National River Recreation Study, (Knopf and Lime, 1981). The second, which replicated the earlier study, was completed in 1987

ALTERNATIVE A

A. Critical Elements

1. Threatened and Endangered Species

a. Wildlife

1) Bald Eagle

a) Impacts

No impacts are anticipated to bald eagles from Alternative A.

b) Mitigation

Same as Proposed Action.

2) Peregrine Falcon

a) Impacts

Same as the Proposed Action.

b) Mitigation

Same as Proposed Action.

3) Plants

a) Impacts

The lack of adequate inventory data on plants make it difficult to distinguish differences in impacts between alternatives. Because of this data gap, one must assume that there will be impacts to plants from Alternative A. Although the projected use is lower than the proposal, concentrated recreation pressure in the area of plant occurrence will be detrimental to these plants (see Proposed Action Impacts).

b) Mitigation

Same as Proposed Action.

2. Wilderness

a. Impacts

Under this alternatives, only 20 campsites would be built at Ruby Mountain. Within the Browns Canyon WSA, under all alternatives, eight low use lunch stop sites would still be provided, but with no actual facilities. Therefore, the impacts under this alternative are similar to those under the Proposed Action, only lesser in extent.

b. Mitigation

If the same mitigating measures are implemented here as was mentioned for the Proposed Action, there would be no unavoidable adverse impacts to the WSA.

3. Visual Resources

a. Impacts

Since facility development would be less under this alternative, visual contrasts would also be less. However, impacts would be similar to those mentioned under the Proposed Action in other regards.

b. Mitigation

It is recommended that mitigating measures for all the alternatives be the same as those listed under the Proposed Action in order to ensure no lasting adverse impacts result.

4. Socio-Economic

a. Social Values

1) Impacts

Same as the Proposed Action, only lesser in extent.

2) Mitigation

Same as the Proposed Action.

b. Economic Values

1) Impacts

A temporary peak construction workforce of perhaps as many as 20 individuals would be required in the first year of implementation. Most of the labor is likely to come from local hires.

The ESA Table presents total employment for 1997 for Alternative C. The impact of Alternative C and the cumulative impacts from the 1986 base are not significant. The percentage change from the No Action would be 1.8 for employment. The average annual percentage cumulative change from the 1986 base would be 1.3.

There would be a permanent parks workforce of perhaps as many as four people in the area and 14-15 people part-time during the season. By 1997 $430,000 in fees would be collected in the area and would be returned to operate the park.

2) Impacts to National Values

See the Total National Values table under the Proposed Action. The increase in national values from the No Action Alternative is 157 percent or 268 percent increase from the 1986 base.

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3) Impacts to motels/hotels, and campgrounds

See Proposed Action to motels/hotels and see Recreation Section for impacts to area campgrounds.

5. Cultural and Paleontological Resources

a. Cultural Resources

1) Impacts

Same as the Proposed Action.

2) Mitigation

Same as the Proposed Action

b. Paleontology

1) Impacts

Same as the Proposed Action

2) Mitigation

Same as the Proposed Action

6. Water Quality

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

7. Hazardous Waste

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

B. Other Affected Resources

1. Realty

a. Impacts

Same as the Proposed Action.

b. Mitigation

Same as the Proposed Action.

2. Energy and Mineral Resources

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

3. Recreation

a. Impacts

This narrative addresses impacts of the Reduced Development Alternative, again using the same three components used to describe the affected environment: recreation resources, recreation visitor use, and recreation management--of the resources, the use, and of facilities required to properly manage both. This also describes impacts on the overall recreational character of the river and its environs (i.e., physical, social, and managerial) under the same headings.

1) Recreation Resources (Physical Characteristics)

For all segments, in order to maintain existing recreation characteristics or provide others that are more highly valued by users, this alternative would retain more of the resource's natural characteristics, accommodate lower recreation use volumes, and require less intensive management than would the proposal. Once the lower capacities are reached, some users may be turned away (see visitor use section).

a) Objectives

i. Segment 1: Leadville to Buena Vista

Management objectives are to retain the existing Roaded Open Country character of the land and facilities. This would maintain the area's existing semideveloped resource and facility character for those boaters who want to get away from more intensive facility development. No impacts would be expected.

ii. Segment #2: Buena Vista to Salida

Like the proposal, management objectives for the physical character of this segment would be to maintain its Roaded Open Country character. However, unlike more intensive development called for under the Proposed Action, the reduced facility development would accomplish this objective. For example, site capacities of the Browns Canyon lunch stops are half that of the proposal: 13 persons-at-one-time (PAOT)(see Illustration VII-4). Also, facilities would not be installed at those sites (temporary facilities are included in the proposal). Developed lunch stops south of the railroad bridge would also be reduced in size to accommodate no more than 25 persons at one time (PAOT), and toilet facilities would be provided at those sites to ensure that human waste disposal does not damage resource quality (toilet facilities are not included in the proposal)(see also Visitor Use section). No impacts are projected.

Objectives for intensively developed sites would be to manage those facilities under the Highway Rural prescription. This would still allow modification of the landscape so that several facilities could be provided to accommodate demonstrated user needs. Public concerns about the size of these developments have been addressed by greatly reducing their size. For example the PAOT capacity of the Ruby Mountain recreation site would be reduced to 128 (from 255 under the Proposed Action) with only a 20-site campground (compared to 40 sites in the proposal). Size of the Hecla Junction recreation site has been cut in half from the proposal, with a maximum PAOT occupancy of 179 people. No impacts are anticipated.

Reduced facility development of lunch stops along the river would be welcomed by those concerned with maintaining Browns Canyon's Roaded Open Country character. The reduced site sizes would benefit users concerned about maintaining more of the river's natural character.

iii. Segment 3 Salida to Vallie Bridge

Management objectives for the land and facilities are the same as in the proposal: Highway Rural. The size of intensively developed sites would be reduced, however, the effect on the physical resource character in this already highly altered landscape would differ little. Like the proposal, this would essentially maintain the status quo, and no adverse impacts are anticipated.

iv. Segment 4: Vallie Bridge to Parkdale

Management objectives for land and facilities on the river corridor would remain Highway Rural, like the proposal. Objectives for intensively developed sites, however, unlike the proposal (Developed Urban), would maintain existing Highway Rural physical characteristics. The average boater would still have a slight dislike for physical settings characterized as Highway Rural; shoreline users, however, indicate a slight preference. No adverse impacts are expected.

v. Segment 5: Parkdale to Canon City

This alternative's objectives prescribe the same Roaded Open Country physical character class for the river corridor as does the proposal. The character class prescribed for intensively developed recreation sites is also the same, Highway Rural. The difference between the proposal and the alternative is that the alternative's reduced level of facility development would actually meet the Highway Rural intensively developed site prescription and the proposal would not. No impact is anticipated.

301

vi. Segment 6: Canon City to Pueblo Reservoir

This alternative's objectives include a Roaded Open Country prescription for management of the physical setting (compared to Highway Rural for the proposal). The result would be that this segment's relatively remote and isolated character would be maintained as is to enable boaters, especially canoeists, to experience more solitude and isolation than would be available on any other segment in the planning corridor. Although both Segment 2 river corridors also carry the same Roaded Open Country physical character prescription (the most resource-dependent of any in the planning corridor), the physical and biological attributes of certain stretches of Segment 6 would ensure under this alternative that they remain the most isolated of any in the entire river corridor. Another beneficial effect would be to reduce the potential for recreation conflict between boaters and adjacent landowners. There would be no adverse impacts.

b) Facilities

In general, there would be a sizable beneficial effect on the land and resources from all of the facility development included in this alternative. These facilities would help control visitor use patterns and wear and tear on the environment. At the same time the prescribed level of development would alleviate all of the adverse changes in recreational character, which the proposal would bring (i.e., moving away from natural and towards man-made), that most concern users. These facilities would also help resolve resource damage problems (as well as adverse changes to social and managerial characteristics as outlined in later sections in this analysis) including litter/trash/garbage pollution, soil damages and erosion, and vegetation destruction.

2) Visitor Use (Social Characteristics)

River corridor carrying capacities under this alternative have been reduced 50 percent from those formulated by the DPOR Advisory Committee under the Management and Development Proposal. Likewise, on all segments, reduced off-season river corridor carrying capacities would come earlier in the boating season to allow more equitable benefits to fishermen. Adjusted daily boat launching windows would do the same thing. These changes are in response to minority reports filed from disagreeing committee members and to recommendations by the State Parks Board. This would have a beneficial effect in that, through greater user tradeoffs, it alleviates some of the user conflicts inherent in the proposal. On the negative side, less use could be accommodated than under the proposal. Once carrying capacities were reached, which would come sooner under this alternative than under the proposal, more users would end up being turned away to accomplish these ends.

a) Objectives

i. Segment 1: Leadville to Buena Vista

Social management objectives for this segment are to retain the existing Roaded Natural characteristics of visitor use on the river corridor, and at developed sites, yet still accommodate a good deal of additional use beyond what is now occurring, particularly for private boating (see Illustration VII-2). Projected 1997 annual use on this Segment 1 under alternative is 53,313 people vs. 118,165 under the proposal. While this would still represent a nearly fourteenfold increase over the 1987 volume of 3,900 visits (see Illustration VII-2), this alternative's 50 percent reduction in river corridor carrying capacities from what is proposed would allow maintaining Roaded Open Country characteristics. This means that moderate use would occur, contact with others would be expected but not continual, and evidence of others would be neither common nor dominant.

The amount of interruption private kayakers would have to experience from commercial rafts would be greater than what occurs at present levels. Commercial boater access to the river would be reduced by about 25 percent from what it would be under the proposal. Therefore the opportunity to experience challenging whitewater boating with reduced conflict with others, but increased user interaction would still occur, and a degree of solitude, consistent with the Roaded Open Country class, would be preserved. The 25 percent reduction in commercial boating access from the proposal would still allow maintaining, even increasing, present levels of commercial use.

Site capacities have been cut in half from those called for by the Proposal. Also the prescribed earlier off-season dates would create both a diversity of boating opportunities (part of the season where use levels are substantially reduced) and would lessen impacts on fishermen from peak season boating use and other shoreline users for a longer period of time.

ii. Segment 2: Buena Vista to Salida

This alternative addresses boaters' primary crowding concerns on this segment and gives proportionately greater emphasis to commercial boating than does the proposal. Private boater access to this segment would be reduced to about 30 percent of what it would be under the proposal. This design reflects that the bulk of commercial Arkansas River use over the past several years has occurred in this segment (as well as in Segment 4).

Management objectives are set to maintain the Roaded Open Country character of the social setting on the river corridor and to provide intensive site developments no more facility-dependent than the Highway Rural character class. Projected boater use increases as of 1997 would only be about half again as much as occurs at present because of the 50 percent reduction in river corridor carrying capacities. A two-fold increase is projected to occur with the proposal (see Illustration VII-2).

Acquisition and development of additional sites along this segment would effectively reduce crowding through the day, both on-river and at developed sites from what would otherwise occur given this amount of boating use. It is anticipated that with the improved river corridor and site management, and with reduced carrying capacities, users' primary crowding concerns could be reduced even below what they are at present, and still accommodate the projected moderate increase in boating use. Congestion at intensively developed sites would be substantially lessened by the reduction in carrying capacities at Fisherman's Bridge (to 33 PAOT), at Ruby Mountain (128), and at Hecla Junction (179). User concerns about crowding at developed sites would be reduced. However, there may still be a concern with the influx of large groups and associated crowding, since there is no limit on the size of

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commercial groups in particular. This may also impact users on the corridor at lunch stop sites. Yet this alternative, with the kinds of management actions incorporated, would result in less crowding. For example, the 11 boats at one time capacity at Hecla Junction would be substantially less than use levels, which presently occur during peak use days. Users have expressed substantial concern over these existing peak levels.

iii. Segment #3: Salida to Vallie Bridge

Under the Reduced Development alternative, the social character class prescribed for the river corridor on this segment is Roaded Open Country (vs. Highway Rural for the Proposed Action). Whereas the emphasis in Segment #1 is on private boating--and in Segment 2 on commercial boating, here it is on fishing. The physical character class is Highway Rural, and projected use would roughly triple by 1997. The designed 50 percent reduction in carrying capacities set forth in this alternative would allow providing a social environment where, instead of being in a continual stream of other people, there is only intermittent but expected contact.

Affects on visitors would be to maintain much of the current social character which is of particular concern to fishermen and private boaters. Moreover, beneficial impacts to fishermen during the off-season would be great; from July 15 through mid-May, the only boating that would be allowed would be that provided for by special permit. This would allow FIBARK and other special events to occur as usual, yet at the same time it would recognize the outstanding fishing potential on this segment. Ample opportunities would still exist to accommodate any displaced boaters on other segments; both commercials (especially on Segments 2 and 4) and privates (especially on Segments 1 and 4). Those who must rely on commercial outfitters' services to run the river would essentially be limited from this segment, however, good windows of opportunity would still remain for such use to occur on other segments of the river.

The reduction in developed site capacities reflects the need to accommodate fewer users from the river corridor itself. However, these sites would remain open to roadside picnicking and especially to accommodate fishing use, so the Highway Rural character class prescription would still be appropriate. For example, site capacities at Salida East would be reduced to 50 persons-at-one-time (PAOT) and at the Rincon recreation site to 40 PAOT. The lower numbers of users would benefit shoreline users wanting to experience more of the river and who are not interested in affiliating with larger crowds. In particular, fishermen would benefit greatly. No adverse impacts are anticipated.

iv. Segment 4: Vallie Bridge to Parkdale

This Reduced Development alternative, like the proposal, prescribes that the social character of the river corridor on this segment be managed under the Highway Rural prescription (see narrative under proposal for relationship to user preferences). Projected use by 1997 is expected to increase to slightly more than three times 1987 levels. This is a 50 percent reduction in river corridor carrying capacities from the Proposed Action. On this segment, private and commercial boaters would share equally in the reduction while the objectives of the proposal would provide primarily for boating and secondly for fishing, this alternative would provide equally for all users. Those capacity reductions would benefit users who are already expressing concerns about crowding--one fifth of all commercial boaters and one-third of all private boaters now feel crowded.

A look at the use of intensively developed sites and the capacities this alternative prescribes for them indicates why crowding would be reduced. For example, at Parkdale, present visitor use on peak days exceeds the 47 PAOT site capacity figure prescribed in this alternative several days each season. The same is true for Salt Lick with its prescribed 28 PAOT.

Congestion would be substantially reduced at intensively developed sites because management objectives for this alternative prescribe that social characteristics of these be Highway Rural as opposed to the Developed Urban prescription of the proposal. Under this alternative users could experience continual contact with others--compared with high concentrations of users at these sites and in nearby areas under the proposal. The average user would benefit from this change, being about half as adversely disposed to Highway Rural social characteristics as to those of the Developed Urban character class. Boater's sense of crowding at these sites would probably be reduced even below current levels because there would be total management of the entire river corridor to help redistribute use throughout the day, and prevent the crowding that now occurs at peak times.

v. Segment 5: Parkdale to Canon City

While river corridor social prescriptions are the same as for the proposal, the 50 percent reduction in river corridor carrying capacities would make those prescriptions achievable under this alternative where it was not under the proposal. Projected annual visitation to 1992 would also be reduced, to about 2½ times current levels (compared to 3½ for the proposal). Effects on users would be beneficial, allowing more use than presently occurs, yet maintaining the existing social character. This would be especially important to help maintain elements of challenge and risk associated with the challenging white water through the Gorge. This should also reduce or altogether eliminate user safety concerns that could result from higher user volumes associated with the proposal.

Again, congestion at the intensively developed sites would be substantially reduced (see Segment 4 in relation to the Parkdale ingress site).

vi. Segment 6: Canon City to Parkdale

As with the proposal, no adverse impacts are anticipated to this segment under this alternative. However, a beneficial effect would be that the lower use numbers would allow use levels to more nearly conform to the physical characteristics of some of the more remote and isolated stretches. This in turn would enhance opportunities for boaters to have the feeling of getting away from others, enjoyment of sights and sounds of nature, and so forth.

b) Other Activities

i. Fishing

Under this alternative the intensity of river boating use would more than double by 1997 (139,000 to 359,230). Despite this increased use, it is projected that fisherman use would also increase by approximately 60 percent. This is due to the restrictions placed on boating and the designation of river segments specifically for fishing. Most of the impacts to fishing use resulting from the proposal would be alleviated under this alternative. Low impacts are expected in subsection 1B and moderate impacts in subsection 2A-D primarily because of relatively high numbers of boaters. In all other segments, impacts to fishermen could be alleviated.

Increased windows of time where fishermen could be free of conflicts with boaters--both seasonally and daily--would help make this possible. In addition, a complete prohibition of boating use--except by special permit on Segment 3 and altogether on subsection A of Segment 4 would give fishermen priority on those segments. At the same time, conflicts that would occur between fishermen and boaters on other river segments where boating would be the priority use (e.g., Segment 1 for private boaters and Segment 2 for commercial boaters) would in large part be made up for, especially on Segments 3 and 4. Conflicts between fishermen and boaters would be reduced even beyond what they now are.

ii. Camping

- **Boater Camping**

As for the proposal, boater camping projections are based on the two most heavily-used Segments, 2 and 4. Assumptions used in this analysis are the same as for the analysis of impacts under the proposal. Total projected increases in boating on the above segments under this alternative total 128,688 overnight camping stays annually (an overnight camping stay is defined as one person camping for one night.

Given private campground participation rates from the user study (Knopf and Lime 1981; Knopf and Virden, 1987), total annual private camping increases just for Segments 2 and 4 alone would equal 126,336 overnight camping stays annually. Again assuming the same rate of private camping on the other river segments, there would be an additional 96,546 overnight camping stays from camping boaters on the remainder of the river. The final result would be a projected total private camping increase of 222,882 overnight camping stays annually.

Contrasting this with the current unused private campground capacity of 372,868 annual overnight camping stays, projected camping growth would be only an estimated 59.8 percent of total available capacity. This growth would be welcomed by the industry and would cause no adverse impacts.

Following the same methodology for public campgrounds, given their participation rates from the 1987 user study, total annual public camping increases just for Segments 2 and 4 would equal 111,459 overnight camping stays. Again assuming the same rate of public camping on the

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remaining river segments, there would be an additional 85,177 overnight camping stays from camping boaters on the remainder of the river for a projected total public camping increase of 196,636 overnight camping stays annually.

Again, contrasting this with the current unused public campground capacity of 282,570 annual overnight camping stays, projected camping growth would only be 69.6 percent of total available capacity.

- Other Shoreline Camping

As for analyses under the proposal, the above camping projections only include those related to boating. Increases in camping related to other recreation activities such as fishing, would be over and above these amounts. By applying known rates of Segment 4 shoreline users camping in 1987 to fishing use projections, an estimate of additional fishing related camping use may be obtained, assuming the same camping rates occur across all segments.

This would lead to a projected increase of 2,536 private overnight camping stays and 10,920 public overnight camping stays by fishermen in 1997 under the Reduced Development alternative. See Proposed Action for a complete discussion of impacts.

3) Recreation Management (Managerial Characteristics)

a) Objectives

i. Segment 1: Leadville to Buena Vista

Managerial prescriptions under this alternative would be to maintain the existing Roaded Open Country character class, both on the river corridor and at intensively developed sites. Contrasted with the prescribed change to Highway Rural in the proposal, this alternative would greatly reduce the adverse impacts on boaters, beyond what would otherwise occur. This reduction would especially affect private boaters who have expressed intense concern that their activity be allowed to continue in a climate as free from management intervention as possible. Some impacts would still occur, inherently related to the need for additional management to accommodate greater public recreation demand on a river segment as popular and highly-valued as is Segment 1, particularly to private boaters (see following sections on treatment of visitor regulation and permits and fees).

ii. Segment 2: Buena Vista to Salida

The managerial prescription for the river corridor would be to maintain the Roaded Open Country character class on this segment. Unlike the proposal, this character class would be achievable under this alternative. By reducing river corridor carrying capacities by 50 percent, the intensity of onsite visitor control and management would be greatly reduced. The managerial climate would, therefore, more nearly conform to user expectations

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While commercial boater industry representatives have indicated varying opposition to direct regulation through use allocation, nearly 50 percent of all Segment 2 boaters already support the idea of restricting the number of people using the river, even at current (1987) use levels. Only one-fourth of all users oppose it. Based on these attitudes, the vast majority of users would perceive the early imposition of regulations to reduce crowding (which would be required earlier under this alternative with the 50 percent reduction in river corridor carrying capacities; see visitor use section) as being beneficial (see more detailed treatment of this issue under analysis of Proposed Action).

As for the proposal, managerial characteristics prescribed for intensively developed sites would retain their current Highway Rural character. There would be no impacts.

iii. Segment 3: Salida to Vallie Bridge

No impacts are identified owing to the managerial recreation character classes prescribed by objectives for this alternative. The prescribed Highway Rural managerial character class is what presently exists.

iv. Segment 4: Vallie Bridge to Parkdale

This alternative's managerial prescription for the river corridor is the same as that of the Proposal and the existing conditions; Highway Rural. Effects would be no different than under the proposal; no impacts are anticipated.

This alternative does prescribe a less managerially intensive character class for developed sites than does the proposal. This is also what now exists, Highway Rural. No adverse impacts are anticipated. The prescription under Alternative A would still allow managers to effectively deal with primary user concerns on this segment (see more detailed analysis of these concerns included under the Proposed Action).

v. Segment 5: Parkdale to Canon City

There would be no difference between this alternative and the proposal concerning managerial character class prescriptions, either on the river corridor or at intensively developed sites. Although under the proposal, the Highway Rural managerial character class prescription would be exceeded because of the intensity of site developments, that character would be achievable under this alternative with the reduced level of needed site management (e.g., less direct user supervision and direction, reduced law enforcement presence, etc.). No adverse impacts on users are anticipated.

vi. Segment 6: Canon City to Pueblo Reservoir

As for the proposal, this alternative prescribes maintaining the present Roaded Open Country managerial character class. No adverse effects on users are anticipated.

b) Visitor Management

i. Visitor Services

No adverse impacts are anticipated. As with the proposal, this alternative anticipates numerous beneficial effects of visitor services to be provided on all segments. Existing visitor services are extremely inadequate. Visitor services included in this alternative would effectively solve most of these identified problems. This would be true both for the public lands and for the entire river corridor since H.B. 1253 would still give DPOR on-water management jurisdiction to provide visitor services. Again, visitor management envisioned under this alternative would, like the proposal, be far more responsive to public needs than is any of the management presently occurring on the river (see more detailed analysis under the Proposed Action).

ii. Visitor Regulation and Enforcement

On the positive side, this alternative comes closer to meeting user expectations for dealing with already existing heavy visitor use levels. While capacity use levels are only half as great as for the proposal, this alternative still envisions substantial use increases throughout the planning corridor. Yet the comprehensive on-water management of the entire river, the addition of key ingress/egress boating sites, additional fisherman access sites, and so forth (most of which are also included in the proposal) would effectively redistribute use so that even much of the present peak day crowding would be alleviated.

The substantial lowering of carrying capacities would have a negative effect on those users who resist the idea of having to compete for limited amounts of available use. It would also include the potential turning away of people wanting to run the river sooner than would occur under the proposal. Unrelated to the effects on recreation users themselves, the commercial outfitting industry itself would strongly object to the imposition of lower carrying capacities (as indicated by industry representatives on the DPOR Advisory Committee who helped formulate the Management and Development Proposal), irrespective of existing support for such controls among many commercially outfitted clients.

Effects of private boater identification would be much the same as under the proposal. Although it would benefit equitable management of all use, commercial and private; but generally private boaters would not like the identification.

iii. Permits and Fees

Inequities of the fee structure included in the proposal for commercial outfitters are resolved under this alternative. The 3 percent commercial public lands fee would stand. All outfitters would pay an additional fee for on-river use, at the Parks Board's discretion, over and above that already required for public lands use.

The fairness, equity, and need for whatever fee structure would be adopted by the Parks Board under the proposal cannot be assessed in this analysis since the Board has decided not to make those decisions until after the plan is completed and the anticipated Cooperative Management Agreement would be consummated. They may or may not be fair and equitable.

This alternative envisions that all boaters and shoreline recreation users would pay use fees, but only at the eight developed sites identified for Recreation and Public Purposes leases by DPOR (see Chapter III, Section G3). Although the adverse impacts of this action on other public lands would be eliminated, another conflict could result, since this alternative does not require permits of casual users at undeveloped sites (e.g., sightseers, picnickers, etc.), those using the affected intensively developed sites may consider it adverse. Others, knowing that fees paid would be directly returned to the ground to help maintain and improve the quality of recreation sites, would welcome the opportunity to share in helping meet those management needs. Input received to date indicates that private boaters in particular would consider such requirements an adverse impact. In reality, the effect would be very beneficial to to all publics in that it would help ensure the maintenance of users' most highly valued resource characteristics and the continued delivery of services desired by users.

c) Facility Management

i.) Segment 2: Buena Vista to Salida

Adverse impacts stemming from human waste disposal problems in Browns Canyon, both to the resource itself and to users (see impact analysis for the Proposed Action) would be alleviated under this alternative with the provision of river accessible vault toilets at all developed lunch stops south of the bridge. Reduction of site capacities by 50 percent would work towards alleviating these impacts, both within the WSA and south of the bridge. No adverse impacts are expected under this alternative in this regard.

ii. All Segments

As for the proposal, beneficial effects of providing recreation facilities would be substantial (see detailed treatment in impact analysis for the Proposed Action). Again, the practical wherewithal to provide for users' recreation facility needs would be present, and most of the facility construction and maintenance needs identified by users would be provided for under this alternative. Anticipated funding levels would be expected to be the same under this alternative as for the proposal.

d) Administration

No adverse impacts would occur under this alternative by attempting to transfer responsibility for determining management priorities to DPOR. Priorities would be those spelled out in the Implementation Phasing section of this plan for this alternative.

This alternative would have the managing agency provide visitor services, facility management, and resource protection for the affected public lands as a public good, not as much as possible on a user funded basis. What this means is that the continued delivery of quality outdoor recreation opportunities on these lands would not be based on the amount of user fee revenue, but would be borne by the managing agency as a condition of the anticipated Cooperative Management Agreement. User fee revenues would be collected only on certain sites and then only to supplement regular appropriated funding for operation, maintenance, and development. Adverse impacts related to this subject in the proposal would, therefore, no longer occur under this alternative.

Sites at which major facility development would occur under this proposal are limited to those already identified. Some minor additions and/or changes might be made regarding limited site developments, but neither the DPOR Advisory Committee nor BLM would be identifying sites for facility development (as provided for in the proposal) outside the purview of this plan. As a result, adverse impacts identified for the proposal would no longer be experienced.

Another beneficial effect of this alternative, compared to the proposal, is the coordinated season changes in capacity and uniform launch windows being the same on all segments. This design would be both far easier to administer and much easier to communicate to the public.

b. Mitigation

1) Recreation Resources (Physical Characteristics)

All facility developments in Segment 6 would be limited to a small enough size and location so that they do not impact heron rookeries and other avian wildlife that are major recreation attributes.

Only single party campsites will be provided in Segment 6 to reduce the potential for disruptive groups and the impacts they could have on this segment's solitude and to reduce possibility for displacement of riparian wildlife needed to maintain special recreation attributes.

2) Visitor Use (Social Characteristics)

To reduce already existing crowding problems, limits could be placed on the maximum numbers of people allowed per group as well as maximum numbers of boats per group on all six segments.

Direct use regulation would not be implemented until combined commercial and private boating use reaches assigned carrying capacities. Direct regulation would be used only when the assigned carrying capacity has been reached on any given river segment, not just the targeted component volumes assigned to each sector, commercial and private.

If actual use in one sector reaches the targeted amount before it does in the other, the targeted ratio of commercial to private use prescribed in the proposal would be adjusted before direct use regulation of boating is implemented on any segment of the river.

3) Recreation Management (Managerial Characteristics)

The State Parks Board will ensure that the public and all affected user groups are involved in their establishment of user fee requirements and fee schedules, coordinating the same fully with BLM and other affected agencies.

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4. Soils

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

5. Vegetation

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

6. Animal Life

a. Bighorn Sheep

1) Impacts

a) Segment 1

No impacts to bighorn sheep are anticipated from Alternative A in this segment.

b) Segment 2

Impacts to sheep from Alternative A are the same as for the Proposed Action. See impacts section under the Proposed Action.

c) Segment 3

Impacts to sheep in this segment are limited to the Browns Canyon herd which was described in the previous segment.

d) Segment 4

Despite a large decrease in the numbers of recreational users in this segment, impacts to bighorn sheep will still occur under this Alternative. Approximately 34% of the total river use will take place in this segment (122,461 user days). This level of use is more than 2 times present use. Approximately 91 percent of this use (111,401) will occur from May 15-July 14, the most critical time period for bighorn sheep. The shorter boating season (61 days) in this alternative will allow 111,401 persons on the river. At peak use 1,826 persons could float this segment each day. This is not significantly different than the 2,311 persons per day allowed under the proposal. Alternative A allows 78 boats per hour or 1.3 boats per minute for 7-hour day. In addition, there will still be 15 recreation sited developed, although in this alternative capacity's will be half of those in the proposal.

One positive aspect of this Alternative is the narrow launch windows of 9:00 a.m. through 2:00 p.m. with all boats off the water by 4:00 p.m. These hours are much more compatible with peak watering periods of bighorn sheep in the canyon.

As with the proposal, the large numbers of recreationists will increase vehicle traffic on Highway 50 and has the potential to increase sheep/vehicle accidents.

e) Segment 5

No impacts to bighorn sheep will occur as no sheep are found in this segment.

f) Segment 6

No impacts to bighorn sheep will occur as no sheep are found in this segment.

2) Mitigation

Same as Proposed Action.

b. Mule Deer

1) Impacts

Impacts to mule deer from the implementation of Alternative A will be similar to the Proposed Action. A slightly lower number of mule deer will be lost in vehicle accidents due to the smaller increase in traffic expected on the highways.

2) Mitigation

Same as Proposed Action.

c. Raptors

1) Impacts

Impacts to raptors will be the same in Alternative A as the Proposed Action.

2) Mitigation - None.

d. Waterfowl

1) Impacts

Impacts to waterfowl are anticipated to be the same in Alternative A as those described in the Proposed Action. Nesting waterfowl will be displaced from river habitats.

2) Mitigation

Same as Proposed Action.

3/3

e. Nongame Animals

1) Impacts

Same as the Proposed Action.

2) Mitigation

Same as Proposed Action.

f. Fisheries

1) Impacts

Impacts to trout populations under Alternative A are much less than those for the proposed action. As described earlier, impact assessment was based on river flows. Runoff flows above 1,000 cfs generally contain murky, cloudy, water. The characteristics of runoff water make it difficult for trout to visually detect surface activity. Impacts from boating during runoff to trout are minimal.

In contrast, when flows drop below 1,000 cfs, the water is generally clear, except during intense thunderstorms when silt is added to the system. Low flows are critical to trout when surface disturbances may affect their daily activities.

Alternative A contains drastically reduced boating use during the low flow periods. During average years, river flows approach 1,000 cfs during the middle of July. Alternative A reduces boating numbers and lengths of launch windows after July 14. These boating reductions allow fishermen access to the river and the dates coincide with critical flow periods for trout.

The highest fishing use areas, Segment 3 and 4, contain 100% and 91% respectively, of the boating use prior to July 14. These segments provide 62 percent of the total fisherman user days on the river.

2) Mitigation

Same as the Proposed Action.

7. Access and Transportation

1) Impacts

Highway capacity along U.S. Highway 50 would be reduced as described in the proposed action. This would result in an increased but unknown accident rate, and traffic delays at peak times and locations rather than traffic blockage. There would be increased traffic congestion on the rest of the highway system (U.S. Highways 24 and 285) but less than under the proposed action. There would be an increased probability of train/pedestrian accidents as the number of trains and pedestrians increases, but would remain low.

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Construction costs would increase. As described in the Proposed Action, seven major highway modifications would be required totalling new costs of $525,000 - $700,000. There would be new minor modifications but less than in the proposed action. Construction costs for these projects would be dependent on the number finally constructed.

Road maintenance costs as described in the proposed action would increase. Chaffee County road maintenance would increase from $32,000 to $48,000 per year. Highway maintenance costs would increase an estimated 10 percent above current levels of $3,500 per mile per year.

The two general access impacts described in the Proposed Action would still result.

The Segment specific access acquisitions are shown in the "Access Acquisitions" table and are visually noted on the Realty and Access maps on file in the Canon City District Office.

TABLE: __Access Acquisitions__

Segment 1 - Same as the Proposed Action

Segment 2 - Same as the Proposed Action __except__: only one site below Seidels.

Segment 3 - New fishing easement north of Vallie Bridge only.

Segment 4 - Same as the Proposed Action.

Segment 5 - Same as the Proposed Action.

Segment 6 - Same as the Proposed Action __except__: do not provide for fishing access points at Florence, Hobson and others. Also acquire small campsites in quiet areas in the Hobson and Swallows area.

2) **Mitigation**

Same as the Proposed Action are needed.

8. Noise

a. Impacts

Prescribed "quiet zones" here too would help alleviate onsite noise impacts. With use on each segment being only half the proposal, anticipated noise impacts would be much smaller. Still, overall use increases would be substantial, and, as for the proposal, already identified noise concerns could be expected to increase in proportion to the overall increase in use. It is doubtful under this alternative that any users would be displaced from the Arkansas River because of noise.

Even though the numbers of boaters through Segment 6 would be cut in half, without special mitigation, adverse impacts could still be experienced to the Great Blue Heron colonies and other birdlife.

Overall numbers of boaters in National Forest campgrounds would be much less under Alternative A than for the Proposed Action. However, wherever boaters camp, the same kinds of impacts now occurring would be expected to occur to other family and vacationing campers.

b. Mitigation

Require commercial outfitter boatmen/guide to attend user ethics workshop, and include noise prevention stipulations with all State River Outfitter permits for the Arkansas. Also include awareness interpretation and ways to solve noise pollution problems in all river brochures (see more detail under analysis for proposal). Like the proposal, impose group size limits on all parties in Segment 6. In addition, ensure adequate spacing of campsites identified in this alternative, away from heron nesting sits and rookeries, and allow no large groups overnight.

9. Grazing Management

1) Impacts

The reduced development alternative would have similar impacts to grazing management as the proposed action. The three sites where recreation/livestock conflicts occur, already exist as sites. The difference between this alternative and the Proposed Action is that Alternative A would have less recreational use so it can be assumed that conflicts would be less.

2) Mitigation

Fencing of recreation sites to mitigate conflicts with livestock would be recommended.

10. Safety

1) Impacts

Same as the Proposed Action.

2) Mitigation

Same as the Proposed Action.

D. Residual Adverse Impacts

Assuming that mitigation is applied and is effective, there should be no impacts to the following resources: Threatened and Endangered species, wilderness, visual, paleontological, and energy/minerals.

Alternative A will result in increased fee collections, and construction of travel accommodations, but not to the magnitude that would occur if the proposed action is implemented. Intergroup conflicts will continue to occur, but to a lesser extent than the Proposed Action. This alternative would provide the largest growth in fishing opportunities.

Irretrievable losses of cultural resources would still occur due to increased visitation, only to a smaller degree.

Water quality concerns addressed for the Proposed Action, residual adverse impacts, will be similar under this Alternative, only lesser in extent.

The potential for an incident involving hazardous materials will continue to rise proportionately with the increase of people and vehicles along the river corridor.

Changes included in this alternative would not affect overall character of the lands and facility setting for recreation. Some adverse effects would remain on visitor use and social characteristics of the river. Projected 1997 use levels would appear to increase user contact and attendant conflicts particularly in Segment 1, but these would still appear to be consistent with the overall Roaded Open Country character.

Some impacts to the resulting managerial character of the river would remain. Increased recreation use anticipated in Segment 1 would result in a need for greater management to respond to user needs--to be welcomed by many recreationists but to be rejected by some segments of the private boater community in particular. Lower carrying capacities (than the proposal, but still higher than at present except for highest peak days) to deal with identified crowding, conflicts, and so forth would also be perceived adversely by those who oppose use regulation (notwithstanding its benefits for others who want it to maintain desired recreation characteristics).

Under the Reduced Development alternative, short-term uses of the public lands would also affect long-term productivity in that short-term investments would make a greater commitment to the kinds of recreation that already occurs and which appear to be most highly valued by the public. On the whole, this alternative would maintain the status quo, but would improve long-term productivity. It neither retreats to former recreational characteristics nor significantly changes them to provide more facility-dependent or urban kinds of recreation.

The impacts to soils and vegetation will be similar to the Proposed Action, only lesser in extent.

The residual impacts to wildlife will be the same as the Proposed Action except that impacts to bighorn sheep will be less because of the reduced level of development and use, shorter boating season, and shorter time period when boats will be on the water; and fewer mule deer will be lost due to vehicle accidents.

Access and Transportation impacts will be similar to what will occur if the Proposed Action is implemented. Highway congestion and accident rates will continue to increase, but less than will occur with the Proposed Action. Highway construction costs will increase, but the costs of minor modifications and maintenance would be less.

Noise impacts will continue but with less frequency and intensity than will occur if the Proposed Action is implemented. Non-boating users will not likely be displaced and the impact to birdlife along river Segment 6 will probably not occur.

Impacts to livestock grazing use will be very similar to the Proposed Action since essentially the same acreage for recreational facility development will be involved. The lesser number of recreationists using the corridor should lessen impacts from the Proposal.

Disabling accidents and death will continue to occur but with less frequency than under the Proposed Action because fewer people will be allowed to use the river recreational facilities.

With the projected growth of Segment 1, boating use by 1997, some increased user conflicts and increased user interaction would occur. The inequity of commercial boaters paying fees while private boaters don't would not continue.

D. Cumulative Impacts

Refer to the cumulative impact description for the Proposed Action for a complete discussion of cumulative impacts. Alternative A provides for an increase in human use, but only one-half that of the Proposed Action (359,230 boaters). This reduced human use proportionally reduces this alternatives portion of cumulative impacts, as described under the Proposed Action. This is a 330% increase from the 139,000 present use.

ALTERNATIVE B

A. Critical Elements

1. Threatened and Endangered Species

a. Wildlife

1) Bald Eagle

a) Impacts

No impacts are anticipated to bald eagles from Alternative B.

b) Mitigation

Same as the Proposed Action.

3) Peregrine Falcon

No impacts to peregrine falcons are anticipated from Alternative B.

b) Mitigation

Same as the Proposed Action.

b. Plants

1) Impacts

Impacts to plants from Alternative B will be the same as impacts from Alternative A. Recreation site capacities are the same under both alternatives. Impacts that may occur on plants will occur at the developed sites (See Proposed Action and Alternative A Impacts).

2) Mitigation

Since BLM and DPOR could manage use on public lands, mitigating measures for Alternative B are the same as for the Proposed Action.

2. Wilderness

a. Impacts

Same as Alternative A.

b. Mitigation

Same as Alternative A.

3. Visual Resources

a. Impacts

Same as Alternative A.

b. Mitigation

Same as Alternative A.

4. Socio-Economics

a. Social Values

1) Impacts

Same as the Proposed Action, only to a lower extent.

3) Mitigation

Same as the Proposed Action

b. Economic Values

1) Impacts

A temporary peak construction workforce of perhaps as many as 20 individuals would be required in the first year of implementation. Most of the labor is likely to come from local hires.

The ESA Table presents total employment for 1997 for Alternative B. The impact of Alternative B and the cumulative impacts from the 1986 base are not significant. The percentage change from the No Action would be 1.4 for employment. The average annual percentage cumulative change from the 1986 base would be 1.2.

There would be a permanent parks workforce of perhaps as many as four people in the area and 14-15 people part-time during the season. By 1997 $387,000 in fees would be collected in the area and would be returned to operate the park.

2) Impacts to National Values

See the Total National Values table under the Proposed Action. The increase in national values from the No Action Alternative is 140 percent or 239 percent increase from the 1986 base.

3) Impacts to motels/hotels, and campgrounds

See Proposed Action impacts to motels/hotels and see Recreation Section for impacts to area campgrounds.

4) Mitigation

Same as the Proposed Action

5. Cultural and Paleontological Resources

a. Cultural Resources

1) Impacts

Same as the Proposed Action

2) Mitigation

Same as the Proposed Action

b. Paleontology

1) Impacts

Same as the Proposed Action

2) Mitigation

Same as the Proposed Action

6. Water Quality

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

7. Hazardous Waste

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

B. Other Affected Resources

1. Realty

a. Impacts

Realty impacts as a result of implementing Alternative B are identical to the Proposed Action: Management and Development Proposal.

2) Mitigation

The same mitigation measures as recommended in the Proposed Action should be included.

2. Energy and Minerals Resources

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

3. Recreation

a. Impacts

This narrative addresses impacts of the Land-Based Alternative, again using the same three components used to describe the affected environment: recreation resources, recreation visitor use, and recreation management--of the resources, the use, and of facilities required to properly manage both. This section also describes impacts on the overall recreational character of the river and its environs (i.e., physical, social, and managerial) under the same headings.

For all segments, in order to maintain existing recreation characteristics or provide others that are more highly valued by users, this alternative would retain more of the resource's natural resource characteristics, accommodate less recreation use, and require less intensive management than would the proposal. However, its scope is limited only to the public lands, not having any on-river corridor-wide river management authority. Boaters who would put-on, run, and take-out of the river on lands outside the scope of this alternative would be unaffected by any of the management actions prescribed by this alternative. The lack of authority would result in completely unregulated use of the river corridor, and visitor use congestion, conflicts with adjacent shoreline users and landowners, visitor safety problems, and the like would occur. All of this would be beyond the scope of all of the 16 governmental entities that cooperated in the development of this plan.

1) Recreation Resources (Physical Characteristics)

a) Objectives

In each case, objectives for this alternative contain the same recreation character class prescriptions for management of physical recreation resources as for Alternative A, Reduced Development. Therefore, effects would be the same, with one exception. The principal difference between the Land-Based and Reduced Development alternatives is that on-river recreation management authority (re. H.B. 1253) would accompany the latter but not the former. More specifically, this means that the authority for comprehensive recreation management on the entire river corridor would be absent. Therefore the ability to influence visitor user patterns and volumes to achieve prescribed objectives for the land and facilities would be limited to only management which could be accomplished on the public lands themselves.

The potential for deteriorating recreation resources through uncontrolled heavy use, particularly at undeveloped sites, would be greater under this alternative. Problems would be similar to those which are now observed due to the present lack of an on-water management authority. They would include such things as user perception of soil damage and erosion on Segment 2, vegetation destruction on Segment 4, and litter on the banks and in the river. Also included would be impacts on non-public lands from unauthorized boating and fishing resulting problems such as in increased human waste disposal and littering.

b) Facilities

There would be certain beneficial effects to physical recreation resources under this alternative. Greatly improved recreation facilities would be provided by the anticipated BLM-DPOR partnership arrangement to manage public lands recreation use. These benefits would especially be realized at the eight Recreation and Public Purposes lease sites where DPOR would make capital improvements under a Cooperative Management Agreement partnership with BLM (see Chapter III for a description of those sites). This would greatly reduce on-the-ground resource impacts that would otherwise occur. However, the scope of such facility developments would be limited principally to the public lands themselves. Others entities, such as municipalities, may also enter into similar agreements with DPOR for intensive facility construction at key recreation sites.

2) Visitor Use (Social Characteristics)

a) Objectives

Objectives for the character of visitor use under this alternative contain the same social recreation character class prescriptions as for Alternative A, Reduced Development, both on the river and at intensively developed sites. Again, effects would be the same as with the Reduced Development alternative except for differences arising from the lack of on-river recreation management authority (re. H.B. 1253)

Some negative effects of having no corridor-wide management authority are presently occurring. However, the additional growth and adverse impacts identified below would partly result from the area's increased public visibility and use as a State Recreation Area (which is intended under this alternative as it is for Alternative A and the proposal). For an analysis of the negative effects expected only from projected future growth of Arkansas River recreation in the absence of any on-river management authority, see the impact analysis for Alternative C, No Action.

Without authority for comprehensive recreation management on the entire river corridor, there would be no capability to redirect boating traffic to reduce management problems that would result from increased use levels projected for this alternative. For the entire corridor, use levels are projected to increase two and one half times beyond current levels. Adverse impacts would result from taking the actions included in the alternative without having the corresponding on-river management authorities for the entire river corridor to effectively manage resulting increases in use--authorities which are present under both the Proposed Action and Alternative A.

River corridor carrying capacities are not included in this alternative because without any on-river management authority there would be no way to manage total river use volumes. Without any on-river corridor carrying capacities, daily peaks would continue to occur as they now do, and would be expected to increase. Also, since no boating launch windows and restrictions would be enforceable either, none are included in this alternative. The result would be no control over peak on-river use and resulting congestion, and an inability to reduce use conflicts (especially between commercial and private boaters and between boaters and fishermen).

While total use projections for 1997 under this alternative are down (90.6 percent) from what they would be under the Reduced Development alternative, daily use volumes would not necessarily be down by the same amount. Since there is not on-river carrying capacity for this alternative, daily peaks could potentially be in excess of the carrying capacity limits prescribed in Alternative A and in the Proposed Action. Therefore, on-river crowding would become an even greater problem than it already is (e.g., more than half of all Segment 2 boaters believe there are too already too many people on the river as of 1987). Other adverse impacts would include conflicts occurring between users on the river (i.e., boaters and fishermen), inadequate visitor information about the river and things to do and see, and inadequate identification of camping and picnicking areas (see impact analysis under Proposed Action for detailed treatment).

Adverse impacts would also include increased potentials for crowding at undeveloped sites where land-based controls would be more difficult to apply. However, at the more intensively developed sites most of those problems would be alleviated through proper management (see the Recreation Management section below).

b) Other Activities

i. Fishing

Impacts to recreational fishing would increase substantially from what they would be under Alternative A. The reason is that without on-river management authority, increased boating-fishing user conflicts would again occur for the entire use season; no launch windows would be defined to set aside certain times of the day nor times of the year for fishing use. While projected 1997 use levels would be somewhat less than under the Reduced Development alternative, this does not mean impacts would be smaller than under the proposal. For example, boating-fishing conflicts on peak use days are expected to be even more of a problem than they would be under the Proposed Action. Without any on-river carrying capacities, on-river use volumes would be unmanageable. Resulting adverse impacts to fishing potentials would occur in direct proportion to the amount of peak use.

ii. Camping

Camping projections are based on a comparison of 1997 total boating visits for Alternatives A and B. Total projected boater use increases in Alternative A are 227,030 visits compared to 193,357 for Alternative B. This represents an 14.8 percent reduction in the expected total use (Alternative B use would be 85.2 percent that of Alternative A).

- Boater Camping

If private camping use estimates under Alternative B are also reduced by 14.8 percent, the projected private camping increases for Alternative A (222,882 overnight camping stays each year) would be reduced to 187,615 under Alternative B. Compared with the current unused private campground capacity of 372,868 annual overnight camping stays, this projected private camping growth would then utilize 50.3 percent of total unused capacity. As for Alternative A, this growth would be welcomed by the industry and would cause no adverse impacts.

Estimated public camping use to occur under Alternative C may also be determined through a comparison with Alternative A. If public camping use estimates under Alternative A are also reduced by the same 14.8 percentage, projected public camping increases for Alternative A of 196,636 overnight camping stays each year would be reduced to 165,522 under Alternative B. Compared with the current unused public campground capacity of 282,570 annual overnight camping stays, this projected public camping growth would utilize 58.6 percent of total unused capacity.

- Other Shoreline Camping

Since the above camping projections only include those related to boating, increases in camping use from other shoreline users also need to be considered--especially for fishermen. By comparing the amount of fisherman camping use estimated for total boating use increases projected for Alternative A with those projected for Alternative B, fisherman camping use for Alternative B may be estimated.

If fisherman camping use estimates under Alternative B are also reduced by 14.8 percent, the projected private camping increases for fishermen in Alternative A of 2,536 private overnight camping stays would be reduced to 2,160 stays under this Alternative. Likewise, the projected public camping increases for fishermen in Alternative A of 10,920 public overnight camping stays would be reduced to 9,300 stays under Alternative B.

See Proposed Action for a complete discussion of impacts. No adverse impacts to either private or public camping facilities are anticipated under this alternative.

3) Recreation Management (Managerial Characteristics)

a) Objectives

Objectives for the character of management under this alternative contain the same managerial recreation character class prescriptions as for Alternative A, Reduced Development, both on the river and at intensively developed sites. Again, effects would be the same as with the Reduced Development alternative except for differences arising from the lack of on-river recreation management authority (re. H.B. 1253).

One feature of this alternative which would generate more adverse impacts would be the complete lack of on-river jurisdiction. There would be no way to get any handle on this use to effectively deal with impacts on the resource, facilities, and visitors identified above. Given the increased land-based river recreation management actions, promotion of the State Recreation Area itself and resulting heavier use accompanying greater public awareness of the effort, these impacts would likely be substantial (refer to impact analyses under the Proposed Action for more detail).

Management of site capacities would be also be made more difficult by the absence of any on-river management authority. For commercial boating outfitters, permits would be used to allocate available site capacity use among outfitters. This would also be done with private boaters and fishermen at the eight intensively developed sites to be leased to DPOR in partnership with BLM (see Chapter III for specific identification of these sites). Private permits would not be required for other public lands use which would make it much more difficult to effectively manage private boating use on all but the eight intensively developed sites.

b) Visitor Management

i. Visitor Services

While beneficial effects of this alternative would be substantial at the developed sites, those benefits would only apply to the existing public lands and to any additional public lands and State Park lands that may be acquired. There would be no corridor-wide beneficial effects on visitor services under this alternative as there would be under Alternative A. Visitor services included in this alternative would solve many identified land-based problems (see more detailed analysis under the impacts section for the Proposed Action).

Improved visitor services for the public lands would enhance user understanding, appreciation, and thereby utilization of these resources. However, the increased use generated by promotion of the State Park could not be properly managed on the river without a corresponding visitor management presence. The resulting increase in recreation visitation would compound the same kinds of visitor management problems already occurring and unmanaged (see detailed discussion of those problems in the impact analysis for the Proposed Action).

ii. Visitor Regulation and Enforcement

Like the proposal, but for different reasons (lack of authority), this alternative does not come close to meeting user expectations for dealing effectively with already existing heavy visitor use levels. Although the projected levels would only be about half that of the proposal, there would be no means to manage on-river users to accomplish corridor-wide objectives and resolve identified crowding problems.

On the positive side, particularly from some users' perspective, the absence of on-water authority would be welcomed. This would prevent any on-river use regulation and, despite greater crowding problems, would allow boaters and other visitors to use the river as much as they want without any restrictions (negative effects regarding impacts on resource quality and users' experiences are identified above).

iii. Permits and Fees

Only public lands users would pay fees. All public lands users would pay at the eight intensively developed sites where Recreation and Public Purpose leases are envisioned (see Chapter III). While commercial users would pay fees for use of all other public lands areas, no one else would. The effect of such a fee structure would be beneficial to all publics, helping supplement regular appropriated funding to ensure the continued delivery of visitor services and the maintenance of highly valued resource characteristics.

The fairness, equity, and need for whatever fee structure would be adopted by the Parks Board under the proposal cannot be assessed in this analysis since the Parks Board has decided not to make those decisions until after the plan is completed and the anticipated Cooperative Management Agreement is consummated. They may or may not be fair and equitable.

c) Facility Management

Beneficial effects of facility management would be the same as for Alternative A. No adverse impacts are expected under this alternative in this regard (see detailed treatment under impact analysis for Alternative A).

d) Administration

Effects of administration would be the same for Alternative B as for A (see detailed treatment under impact analysis for Alternative A).

b. Mitigation

1) Recreation Resources (Physical Characteristics)

Staffing would be increased to provide on-river visitor contact. This contract would serve to re-direct use out of undeveloped sites and to provide undeveloped site clean-up to maintain environmental quality on the public lands.

All facility developments in Segment 6 would be limited to a small enough size and carefully located so that they do not impact heron rookeries and other avian wildlife that are major recreation attributes.

2) Visitor Use (Social Characteristics)

To reduce already existing crowding problems at public lands sites, limits could be placed on the maximum numbers of people allowed per group as well as maximum numbers of boats per group allowed at these sites.

3) Recreation Management (Managerial Characteristics)

The State Parks Board will ensure that the public and all affected user groups are involved in the State Parks Board's establishment of user fee requirements and fee schedules, coordinating the same fully with BLM and other affected agencies.

4. Soils

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

5. Vegetation

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

6. Animal Life (all but livestock and T&E Species)

a. Bighorn Sheep

1) Impacts

Impacts to bighorn sheep from Alternative B will likely be adverse for the following reasons. Alternative B is the same as Alternative A in terms of the recreational development on the river. The number of developed sites and the capacities at those sites are the same under both alternatives. Since DPOR has no on-river management authority in this alternative, there will be no controls on numbers of boats or people, no control on launch areas or times of launch and no control of boating originating or terminating on private lands. Ultimately, this may result in more boating use, large crowds, more control problems and greater impacts to bighorn sheep. Many of the mitigating measures designed to minimize impacts to sheep in the Proposed Action and Alternative A will not be enforceable under this management arrangement since there will be no authority to control use.

2) Mitigation

Mitigating measures dealing with boating on the water, as opposed to actual site mitigation, will not be possible in this Alternative. The on-water mitigation measures outlined in the Proposed Action are critical to maintaining bighorn sheep herds in the canyon. Other mitigating measures may be applied as described in the Proposed Action.

b. Mule Deer

1) Impacts

Impacts to mule deer will be similar to those described in the Proposed Action.

2) Mitigation

Same as Proposed Action.

c. Raptors

1) Impacts

Impacts to raptors will be the same in Alternative B as the those described in the Proposed Action.

2) Mitigation - None.

d. Waterfowl

1) Impacts

There is a potential for uncontrolled river boating in Alternative B due to the lack of control by a managing authority. Should this be the case, impacts to waterfowl are anticipated to be the same in Alternative B as those described in the Proposed Action. Nesting waterfowl will be displaced from river habitats.

2) Mitigation

Same as Proposed Action.

e. Nongame Animals

1) Impacts

Uncontrolled boating use in Segment 6 will negatively impact great blue herons that nest along the river near Florence. Disturbed herons will abandon nesting trees if this use isn't controlled.

2) Mitigation

Mitigation will not be possible under this Alternative.

f. Fisheries

1) Impacts

In this alternative, there is no authority to regulate on-river boating use. This may result in increased use, larger crowds, and no control over launch dates and times. With no on-water boating restrictions, during low flow periods, trout will be negatively impacted. The degree of impact is assumed to be the same as the proposed action.

2) Mitigation

With no authority to regulate on-river use, there are no mitigating measures worth mentioning since they could not be enforced.

7. Access and Transportation

a. Impacts

Highway capacity along U.S. Highway 50 would be reduced as described in the proposed action. This would result in an increased but unknown accident rate, and traffic delays at peak times/locations rather than traffic blockage. There would be increased traffic congestion on U.S. Highway 24 and 285, but less than under the Proposed Action and about the same as Alternative B. The probability of train/pedestrian accidents would increase but remain low.

Highway construction costs would increase. The construction of six major highway modifications would cost between $500,000 and $600,000. There would be additional costs to fund minor modifications of the highways; estimated cost of these modifications would be dependent on the final number constructed.

Road maintenance costs on highways and county roads would increase as traffic volume increases. Chaffee County road maintenance costs would probably increase from $32,000 per year to $40,000. Highway maintenance costs would increase above the current average of $3,500 per mile per year by an estimated 5-10 percent.

The two general access impacts described in the Proposed Action would still result. They are visually noted on the safety and access maps on file in the Canon City District Office.

TABLE: Access Acquisitions

Segment 1 - Same as the Proposed Action except: only at Pine Creek.

Segment 2 - Same as the Proposed Action except: only one site below Seidels.

Segment 3 - New fishing easement north of Vallie Bridge only.

Segment 4 - Same as the Proposed Action.

Segment 5 - No additional boater site established in Canon City for egress from the Royal Gorge.

Segment 6 - Same as the Proposed Action except: do not provide for fishing access points at Florence, Hobson and others. Do not acquire campsites as in Alternative A. No new boater site at Florence.

b. Mitigation

Same as the Proposed Action are needed.

8. Noise

a. Impacts

Impacts for this alternative would be more similar to the Proposal than to Alternative B. The reason is that the primary onsite noise problem is on-river, and under this alternative, river use levels would be completely unmanageable. However, with individual site capacities cut in half, fewer numbers of people could be accommodated on the river corridor itself. Yet because of the lack of on-river management authority, noise related to congestion and crowding may actually be greater than under the proposal.

Because total use projections upon which boating related public camping depend are slightly lower under this alternative than for Alternative A, offsite impacts on boater-related public camping would be slightly less than Alternative A.

Likewise noise-related avian impacts in Segment 6 would be more similar for those of Alternative A due to the unregulated and unmanageable nature of the river corridor.

b. Mitigation

Require all commercial outfitters, as a condition of obtaining permits to run the river, to send all boatmen-guides to a DPOR sponsored annual user ethics workshop dealing with the noise and other environmental quality issues. Include noise prevention stipulations as part of all State River Outfitters Licences for the Arkansas to address identified impacts.

Include in all brochures interpretive information on the negative effects of both on-site (i.e., on-river) and offsite (i.e., at campgrounds) noise pollution and ways of reducing it.

9. Grazing Management

a. Impacts

The land-based alternative would have less recreational use than the Proposed Action, so it can be assumed that conflicts with livestock would be less. The three recreation sites that already exist would still need to be fenced to reduce livestock/recreation conflicts.

10. Safety

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

C. Residual Adverse Impacts

Unavoidable adverse impacts will be essentially the same as described in the residual impacts section for Alternative A except that recreation impacts and noise impacts will differ.

Residual impacts to recreation resources and physical recreation characteristics inlcude potential deterioration resources through uncontrololed heavy recreation use at undeveloped sites. User perceptions of resource damage would also be expected.

Adverse effects on visitor use and social characteristics would result from promotion of the State Recreation Area concept without having the wherewithal to properly manage on-water use and thus provide the types of recreation intended. Increases in unregulated daily peak on-river use would easily desired capacities, and there would be increased crowding at sites where land-based controls alone cannot influence the type and character of recreation use. Resulting crowding and user conflicts (both on-river and river to shore) would increase.

The primary impacts to the managerial character of the river would be the complete lack of on-river recreational management authority and jurisdiction. An inability to manage the resource's users would result in increasing deterioration of desired physical and social characteristics, lack of private boater permits to effectively manage use at all but the eight intensive recreation sites, and unfulfilled public expectations for dealing effectively with already existing heavy visitor use.

Under the Land-Based alternative, short-term investments made during the developmental phase on public lands would still maintain the character of lands and facilities, making a greater commitment to existing kinds of recreation than now occurs. But the resulting effects from larger and uncontrolled increases in on-river visitation would adversely affect long-term productivity. Initially the short-term investments would benefit most users through having better facilities to respond to their needs as well as improved visitor services at those sites. But in the long-term, crowding, increased safety problems, increased conflicts with public lands shoreline users (e.g., fishermen) would degrade the river's overall character and result in a loss of productivity.

This also means that public lands facility developments would make the same kind of irreversible commitment as described under Alternative A. Once made, these developments would become irretrievable commitments of public resources involved. Without any provision for on-water authority nor without long-term assurances for its continued existence, that commitment would have a great adverse effect.

Noise impacts will be similar to that which will occur with the Proposed Action, except that there will be less impact at public camping areas.

D. Cumulative Impacts

Refer to the cumulative impact description for the proposed action for a complete discussion of cumulative impacts. Alternative B provides for an increase in human use, but only about one-half that of the proposed action (323,307 boaters). This reduced human use proportionally reduces this alternatives portion of the cumulative impact, as described under the Proposed Action. This is a 232 percent increase from the present 139,000 present use.

ALTERNATIVE C

A. Critical Elements

1. Threatened and Endangered Species

a. Wildlife

1) Bald Eagle

a. Impacts

No impacts to bald eagles are anticipated from Alternative C.

b. Mitigation - None.

2) Peregrine Falcon

a. Impacts

No significant impacts to peregrine falcons are anticipated from Alternative C.

b. Mitigation

Same as Proposed Action.

3) Plants

a. Impacts

Under this alternative, there are no plans to develop the Big Bend recreation site which may contain the plant, Eriogonum brandegei. With the present information available, this is the only vicinity where this plant is known to occur, therefore, no impacts are anticipated. In Alternative C, site developments are still planned for several areas in the canyon where special concern plants are known to occur. Impacts to these species could still occur under this alternative based on the information available.

b. Mitigation

A field inventory is needed to determine range, distribution, and status of rare plants in order to develop proper mitigation to ensure protection of these plants and their habitats.

2. Wilderness

a. Impacts

Same as Alternative A.

b. Mitigation

Same as Alternative A.

3. Visual Resources

a. Impacts

Same as Alternative A.

b. Mitigation

Same as Alternative A.

4. Socio-Economics

a. Social Values

1) Impacts

Same as the Proposed Action

2) Mitigation

The rate of growth (5% per year) is expected to be about the same under this alternative and the infrastructure should be able to handle this without much problem as they have in the past.

b. Economic Values

1) Impacts

The ESA Table listed in the Proposed Action presents total employment for 1997 for Alternative C. The impact of Alternative C and the cumulative impacts from the 1986 base are not significant. The average annual percentage cumulative change from the 1986 base would be 1.2.

There would be a permanent BLM workforce of two people in the area and two people part-time and three volunteers during the season. By 1997, $134,200 in fees would be collected in the area and would be returned to operate the recreation area.

2) Impacts to National Values

See the Total National Values table under the Proposed Action. The No Action Alternative represents a 171 percent increase from the 1986 base.

3) Impacts to motels/hotels and campgrounds

See Proposed Action impacts to motels/hotels and see recreation section for impacts to area campgrounds.

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4) Mitigation

Same as the Proposed Action.

5. Cultural and Paleontological Resources

a. Cultural Resources

1) Impacts

Same as the Proposed Action.

2) Mitigation

Same as the Proposed Action

b. Paleontology

1) Impacts

Same as the Proposed Action.

2) Mitigation

Same as the Proposed Action

6. Water Quality

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

7. Hazardous Waste

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

B. Other Affected Resources

1. Realty

a. Impacts

Withdrawal and classification holders would not be adversely affected nor would any additional hurdle, as described in the proposed action, be created.

335

Authorizations for use of public lands would be protected and future applicants of all types would be considered.

Acquisitions would still be considered and the impacts as described in the Proposed Action would continue.

Unauthorized use investigations and resolution improvement would probably not result as described in the Proposed Action.

Survey and boundary identification needs would increase although not as dramatically and the likelihood of them being completed would be reduced.

b. Mitigation Measures

None of the recommended mitigation for the Proposed Action is necessary. Bureau of Land Management funding and prioritizing could resolve the adverse impacts described above 1) Unauthorized use investigation and resolution, and 2) survey and boundary identification.

2. Energy and Mineral Resources

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

3. Recreation

a. Impacts

This narrative addresses impacts of the No Action Alternative, again using the same three components used to describe the affected environment: recreation resources, recreation visitor use, and recreation management--of the resources, the use, and of facilities required to properly manage both. This section also describes impacts on the overall recreational character of the river and its environs (i.e., physical, social, and managerial) under the same headings.

For all segments, in order to maintain existing recreation characteristics or provide others that are more highly valued by users, this alternative would retain more of the resource's natural resource characteristics, accommodate less recreation use, and require less intensive management than would the proposal. However, its scope is limited only to the public lands, (and not having any on-river corridor-wide river management authority). Boaters who would put-on, run, and take-out of the river on lands outside the scope of this alternative would be both out of reach and unaffected by any of the management actions prescribed by this alternative. That lack of authority would result in completely unregulated use of the river corridor, and visitor use conjestion, conflicts with adjacent shoreline users and landowners, visitor safety problems, and the like would occur. All of this would be beyond the scope of any and all of the 16 cooperating governmental entities that cooperated in the development of this plan.

1) Recreation Resources (Physical Characteristics)

a) Objectives

Because of the difficulty in managing river accessible public lands use, especially outside of developed recreation sites, uncontrolled intensive visitor use may degrade resource character and prevent achievement of prescribed social character class objectives.

i. Segment 1: Leadville to Buena Vista

Management objectives are the same as for the Reduced Development and Land-Based alternatives: retain the existing Roaded Open Country character of the land and facilities, both on the river corridor and at developed sites. To accomplish this objective, developed site capacities have been reduced to one-third that of the proposal. This would maintain the area's existing semi-developed resource and facility characteristics for public lands users who want to avoid more intensive facility development such as would occur on the lower river. Thus it would prevent the displacement of those boaters, private kayakers in particular, who highly value this segment in its current condition. Still there would be some low impact from unmanaged river accessed site deterioration.

ii. Segment 2: Buena Vista to Salida

Unlike either the proposal or the other alternatives, this alternative prescribes a Roaded Open Country character class for land and facilities, both on the river corridor and at intensively developed sites. In order to accomplish this objective, design capacities at developed sites are further reduced (beyond one-half the proposal for Alternatives A and B) to one-third the proposal. This would maintain the natural landscape character, with only rustic facilities to protect the land and promote visitor safety, both for the river corridor and at developed sites for boating and fishing access sites. Since users feel neutral about this setting, and there would still be some resource deterioration from unmanaged boater accessed site use.

iii. Segment 3: Salida to Vallie Bridge

No adverse impacts are expected from the prescribed maintenance of existing Highway Rural character qualities of the land and facilities. The reduction of site capacities to one-third that of the proposal would fit well within this prescription.

iv. Segment 4: Vallie Bridge to Parkdale

Management objectives for the land and facility characteristics both on the river corridor and at developed sites would be the same as prescribed for Alternatives A and B, Highway Rural. These objectives would maintain the present substantially modified landscape and provide several facilities to manage and accommodate greater numbers of users. Resulting physical resource character would be well within the prescription with a one-third reduction in design capacities at developed sites (some are larger than this to accommodate what is already occurring or projected to occur under the this alternative) from what is proposed. As with Alternative B, no adverse impacts are anticipated.

337

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v. Segment 5: Parkdale to Canon City

Again, this alternative prescribes the same objectives for management of the land and facilities as do Alternatives A and B; Roaded Open Country on the river corridor, and Highway Rural at intensively developed sites.

vi. Segment 6: Canon City to Pueblo Reservoir

There are no public lands on this segment and BLM has no management role. Adverse impacts could include increasing resource deterioration of shoreline areas through litter and uncontrolled site use by trespassing boaters.

b) Facilities

Even under this No Action alternative the benefits of facility developments envisioned would be substantial. The greatest hindrance to an adequate BLM responsiveness to users' recreation facility needs has been inadequate funding. This obstacle has, in part, been overcome by passage of the Omnibus Budget Reconciliation Act of 1987 (see Administration section later in this narrative).

2) Visitor Use (Social Characteristics)

Developed site carrying capacities under this alternative have generally been reduced to one-third that of the proposal. These reflect intended design of those facilities to accommodate the normal growth in river recreation expected under the No Action alternative. This does not mean everything would be frozen at current levels, but visitor services would be provided in response to public need pending receipt of adequate funding support.

Prescribed social character classes apply to adjacent public lands, not to the river itself. Management would be accomplished through land-based actions, including placing controls on developed sites. Indirect visitor management controls would be exhausted before imposing direct user regulation and allocation, which would reduce adverse effects experienced by visitors.

a) Objectives

The continued growth of unmanaged on-river use is expected to increase user conflicts, particularly between commercial and private boaters and between fishermen and boaters. There would also be a loss of solitude along the river corridor and crowding would increase. These unmanageable impacts would eventually prevent the achievement of prescribed character class objectives on each segment of the river corridor.

i. Segment 1: Leadville to Buena Vista

Social objectives prescribed for this segment are the same as for Alternatives A and B; to maintain existing Roaded Open Country characteristics, both on the river corridor and at developed recreation sites. No adverse effects are anticipated at intensively developed sites. However, river corridor impacts are expected at undeveloped sites on other public lands along the river especially from unmanaged on-river commercial rafting and private kayaking (see introductory paragraph to this section). These impacts would involve crowding and congestion and related safety problems and loss of experiences most sought after. On the positive side, some boaters, private boaters in particular, would enthusiastically support the lack of management controls on the river corridor. Actual effects on all users, public and private, would be negative with the loss of the social recreation characteristics for which this segment is highly valued, as well as increasing user conflicts, safety problems, and the like.

ii. Segment 2: Buena Vista to Salida

Unlike either the proposal or the other alternatives, this alternative prescribes a Roaded Open Country social character class for lands and facilities, at intensively developed sites as well as on the river corridor. The reduction in carrying capacities at developed sites to one-third of the total prescribed in the proposal would achieve maintenance of Roaded Natural recreation characteristics at all intensively developed sites and would make them manageable, given administrative constraints of this alternative (e.g., funding limitations). However, crowding (see detailed analysis in the impact analysis for the Proposed Action) is expected to continue from unmanaged use at undeveloped sites on other public lands. With already half of both private and commercial boaters being concerned about on-river crowding, adverse impacts would increase with use. Some boaters, commercial as well as private, would welcome this alternative with its lack of management control for the river corridor itself. However, all public recreational boaters in Segment 2 would be affected by negative impacts from degradation of the social characteristics which make this segment the most popular of the entire river, particularly in Browns Canyon itself.

iii. Segment 3: Salida to Vallie Bridge

Prescribed social character class objectives for the river corridor are Roaded Open Country for the river corridor and Highway Rural for the intensively developed sites--each the same as Alternatives A and B. Again, the reduced carrying capacities of developed sites would easily allow developed sites to achieve these objectives and would improve their manageability. However, unmanaged river corridor use on this segment would accelerate already present user conflicts between boaters and fishermen, with the fishermen losing out. The degree of impact would increase in direct proportion to use volume.

iv. Segment 4: Vallie Bridge to Parkdale

For both the river corridor and developed sites, this alternative prescribes Highway Rural social character classes. Effects would be similar to those under the Land-Based alternative. Reductions in capacities at developed sites would improve their manageability, given projected use levels and inherent administrative constraints. However, adverse impacts to fishing would occur similar to what would happen on Segment 3 (see above).

On-river crowding is also expected to increase with no means for controlling this crowding. The same negative effects on users as identified above (see Segment 2) would be experienced here. Commercial boating companies would apparently welcome the opportunity for unrestricted boating use (based on industry input through the DPOR Advisory Committee which developed the proposal). However, commercial boaters (commercial outfitter clients) as well as private boaters themselves would be adversely affected. For example, nearly one-third of all commercially outfitted boaters and over half of all private boaters already feel there are too many people on the river (see more detailed analysis under the impact analysis for Proposed Action).

v. Segment 5: Parkdale to Canon City

This alternative prescribes the same objectives for management of the visitors as do Alternatives A and B; Roaded Open Country on the river corridor and Highway Rural at intensively developed sites. Here too, developed site capacities of one-third of the proposal would be more easily managed, and they would fit well within character class prescriptions. Increasing unmanaged use through the Royal Gorge's rugged whitewater could result in safety problems and a reduction in loss of experience quality (see more detailed analysis of impacts for the proposal).

vi. Segment 6: Canon City to Pueblo Reservoir

There are no public lands on this segment and BLM has no management role. Adverse impacts would include the loss of more quiet river recreation opportunities, particularly for canoeing and for those seeking more solitude and a different kind of river recreation from what is provided on the other segments.

b) Other Activities

i. Fishing

Impacts to recreational fishing would still be increased over what they would be under Alternative A, but not as great as under Alternative B. They would be greater than A because that alternative includes authority to manage river-corridor carrying capacities, but less than B because of that alternatives higher boating use volumes with a corresponding absence of on-water management authority. Another reason they would not be as great as B is that the No Action alternative would see much less emphasis on stimulating economic development and growth in local communities because there would be no State Recreation Area. The promotion of Arkansas River recreation associated with the State Area would not occur. Also the large facility investments and high-profile visitor management actions included with all options where DPOR would manage river recreation (i.e., Proposed Action and Alternatives A and B) would not occur.

ii. Camping

Camping projections are based on a comparison of 1997 total boating visits for Alternatives A and B. Total projected increases in boating use in Alternative A are 227,030 visits compared to 83,140 for Alternative C. This represents a 63.4 percent reduction in the total use expected to occur (Alternative C use would be 36.6 percent that of Alternative A).

340

- Boater Camping

If private camping use projections under Alternative C are reduced by the same percentage, the projected private camping increases for Alternative A of 222,882 overnight camping stays each year would be reduced to 81,621 overnight camping stays projected to occur under Alternative C. Compared with the current unused private campground capacity of 372,868 annual overnight camping stays, this projected private camping growth would then utilize only 21.9 percent of total unused capacity. As for Alternative A, this growth would be welcomed by the industry, and would cause no adverse impacts.

Estimated public camping use to occur under Alternative C could also be determined through a comparison with Alternative A. If public camping use projections under Alternative A are also reduced by 63.4 percent, projected public camping increases for Alternative A of 196,636 overnight camping stays each year would be reduced to 72,009 public overnight camping stays projected to occur under Alternative C. Compared with the current unused public campground capacity of 282,570 annual overnight camping stays, this projected public camping growth would utilize only 25.5 percent of total unused capacity.

- Other Shoreline Camping

Since the above camping projections only include those related to boating, increases in camping use from other shoreline users need also be considered--especially for fishermen. By comparing the amount of fisherman camping use estimated for total boating use increases projected for Alternative A with those projected for Alternative C, fisherman camping use for Alternative C may be estimated.

If fisherman camping use estimates under Alternative C are also reduced by 63.4 percent, the projected private camping increases for fishermen in Alternative A of 2,536 private overnight camping stays would be reduced to 929 stays under Alternative C. Likewise, the projected public camping increases for fishermen in Alternative A of 10,920 public overnight camping stays would be reduced to 3,999 stays under Alternative C.

See Proposed Action for a complete discussion of impacts. No adverse impacts to either private or public camping facilities are anticipated under this alternative.

3) Recreation Management (Managerial Characteristics)

a) Objectives

River corridor carrying capacities are not set on any segments because the river corridor itself would be unmanageable. Without on-river management authority, the entire river corridor would be unmanaged, except for controls which would be exercised from adjacent public lands. These controls would only be effective at intensively developed sites. Wherever unmanaged river use increases to the point where it begins to impact achievement of public land management objectives through undeveloped site use, adverse impacts would result.

Some safety problems could result from the imposition of use allocations to keep use within prescribed capacities. Inexperienced boaters might be turned away with no alternative but to run lower segments of the river (and more difficult whitewater) to find available take outs not already at capacity use.

i. Segment 1: Leadville to Buena Vista

This alternative prescribes Roaded Open Country managerial characteristics for both the river corridor and intensively developed sites. This would commit BLM to providing only a moderate amount of visitor controls on the affected public lands. Regulations would be noticeable, through public information materials and signing, to help maintain resource quality and provide basic visitor information. Continued existing adverse impacts are anticipated from the unmanageability of on-river use (see also analysis for Alternatives A and B).

ii. Segment 2: Buena Vista to Salida

Likewise Roaded Open Country managerial character class prescriptions would be provided for both the river corridor and developed sites. These would be achievable at developed sites, and the further reductions in developed site carrying capacities (to one-third the proposal) would help bring about that end (see also analysis for Alternatives A and B). It would be difficult to effectively manage river accessible shoreline use without on-river authority.

On this most popular of all segments, the absence of on-river management authority and regulatory control would be welcomed particularly by private boaters who want to be free of as much management intervention as possible.

However, the steady increases in boating use, particularly commercial, would continue to increase private-commercial boater conflicts. This situation would eventually become self-regulating by driving private boaters from the river. However, the lack of management authority would still adversely affect both on-river boaters and shoreline recreationists.

Likewise, shoreline fishing use on the public lands would be manageable and provided for, but there would not be the wherewithal to manage or control conflicts between these uses. Once again, boating use volumes could increase to the point where all quality fishing would be lost. Resulting impacts here would be great also (see also analysis for Alternatives A and B).

iii. Segment 3: Salida to Vallie Bridge

As with Alternative B, the prescribed Roaded Open Country managerial character class for the river corridor and Highway Rural for the intensively developed sites would be achievable. No impacts would accrue from that management. However, the lack of on-water authority would prevent managing the important fishermen-boater conflict in this segment. Again, those conflicts could increase to the point where quality fishing would be lost on this segment (see also analysis for Alternatives A and B).

342

iv. Segment 4: Vallie Bridge to Parkdale

The prescribed Highway Rural managerial character class for both the river corridor and intensively developed sites would have no adverse effect on users. It is what presently exists. Adverse impacts on the ability to properly manage fishermen-boater conflict would also occur as with Segment 3 (see above analysis as well as that for Alternatives A and B).

v. Segment 5: Parkdale to Canon City

Under this alternative, BLM would continue to have little influence over the character of river recreation through the Royal Gorge. With the river itself being unmanaged, and with key private put-ins to the Royal Gorge, the character and volume of use would be beyond management influence. Adverse impacts to users would be as described above.

vi. Segment 6: Canon City to Pueblo Reservoir

There are no public lands on this segment and BLM has no management role. Adverse impacts would include growing private land trespass and littering problems that would occur as this segment is discovered by increasing numbers of people. Another adverse impact to the public by taking no action on this segment is that its particular suitability for canoeing and for those seeking more solitude and a different kind of river recreation (from what is provided on the other segments) would not be accommodated as it would under the proposal and other alternatives.

b) Visitor Management

i. Visitor Services

No adverse impacts are anticipated. Even though this is the No Action alternative, the continued increase in boating, fishing, and other shoreline use projected through 1997 would require BLM to increase its efforts at meeting user needs, particularly for information to allow users to make more informed choices about their use of the river. Given that there would be no on-river management authority, interpretive materials would become even more important as an indirect measure to encourage all public lands users to adopt a wise use ethic towards the resource itself and towards other recreationists.

ii. Visitor Regulation and Enforcement

This alternative does the least to meet user expectations for dealing with already existing heavy visitor use levels, particularly on Segments 2 and 4. However, the prescribed site carrying capacities would be enforced to the extent practical. Commercial Special Recreation Permits for all public lands users would be allocated when site capacities were reached to maintain both physical and social management objective prescriptions.

While individual permits could also be required (at the Area Manager's discretion as provided for in existing policy and regulation through the special area provisions of 43 CFR 8372), especially at the more intensively used sites and areas to keep use within prescribed capacities, that

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requirement is not incorporated within this alternative. Resulting adverse impacts would include resource deterioration and crowding from uncontrolled private boating, fishing, and other individual and group recreation use.

iii. Permits and Fees

This alternative envisions that only commercial public lands users would pay use fees. While all users would benefit from the resource and visitor services provided, particularly at the more intensively used sites and areas, not all would pay equally. Adverse impacts would accrue to recreationists using the services of commercial outfitters, since they alone would be bearing the user fee burden.

c) Facility Management

i. Segment 2: Buena Vista to Salida

Vault toilets would be provided at the sites south of the bridge, and porta jons (rocket boxes) would still be required at the lunch sites in Brown's Canyon WSA. Even further reduced design capacities at these sites (one-third that of the proposal) would help maintain resource character. However, these actions alone would not prevent all adverse impacts stemming from human waste disposal problems and other potential site impacts. Without an on-river management authority, management wherewithal would be lacking to ensure that those capacities were met and that human waste disposal requirements were followed. The omission of private permit requirements at key sites in this alternative would prevent using these permits to help maintain prescribed resource and social characteristics.

ii. All Segments

Beneficial effects of facility management would be the same as for Alternatives A and B, other than as described above.

d) Administration

One of the chief differences between this alternative and Alternative B is that there would be a significant reduction in capability to provide visitor services and facilities responsive to user needs. Historical funding deficiencies in BLM's recreation management of these lands has been partly overcome by recent Congressional action which makes possible the return of user fee revenue to the field for on-the-ground management. On December 22, 1987, Congress passed the Omnibus Budget Reconciliation Act of 1987 (P.L. No. 100-203). This legislation contains amendments to the Land and Water Conservation Fund Act and requires that user fees be deposited into a special account for each agency in the U.S. Treasury. At the discretion of the Congress, funds deposited into this account may be appropriated the year following when they are collected for resource protection, research, interpretation, and maintenance activities related to resource protection and recreation management. Provided that regular recreation management appropriations remained constant, this would more than triple BLM's operating capital for recreation management on the river.

Nevertheless, there would be a very real difference between Alternatives B and C in terms of the size of available budgets--based on funding appropriations already made by the Colorado Legislature for 1989, available funding for DPOR management would be about six times what would appear at this time to be appropriated under the No Action alternative.

b. Mitigation

1) Recreation Resources (Physical Characteristics)

Staffing would be increased to provide on-river visitor contact to re-direct use out of undeveloped sites and to provide undeveloped site clean-up to maintain environmental quality of the public lands.

2) Visitor Use (Social Characteristics)

Existing crowding problems at public lands sites would be reduced by placing limits on the maximum numbers of people allowed per group as well as maximum numbers of boats per group allowed at these sites.

To reduce congestion at the Five Points recreation site, this site would be closed to all commercial river use.

3) Recreation Management (Managerial Characteristics)

Individual permits would be required from private boaters and other site users as well as commercial outfitters at the eight principal sites where more intensive visitor use occurs. This would help defray the costs of administering public use, and also ensure more equitable treatment of all users who benefit from the lands, visitor services, and facilities provided.

4. Soils

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

5. Vegetation (other than T&E Species)

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

6. Animal Life

d. Bighorn Sheep

1) Impacts

With the "No Action" Alternative, we are assuming there will be a slow, steady growth in boating over the next several years. This growth amounts to about 5% per year. This amount of projected growth is consistent with growth over the past two years.

Negative impacts to bighorn sheep from this growth have not been documented. In realty, bighorn sheep populations have steadily increased, due to several successful transplants. Most of the herds in the Arkansas River have not reached carrying capacities and have the potential to expand further. An exception would be the herd north of the river in Segment 4 (Game Management Unit S-7), which has maintained a stable population for several years.

The slow, steady growth projected in Alternative C will most likely not impact sheep to any great extent. The ability of bighorn habituate to man over a long period of time will allow them to adjust to projected growth figures in this alternative.

2) Mitigation - None.

e. Mule Deer

1) Impacts

There will be no sizeable increase in impacts to mule deer from Alternative C. Mule deer/vehicle accidents will continue to be of concern and should increase proportionately along with increased use as a result of this Alternative.

2) Mitigation

Same as Proposed Action.

f. Raptors

1) Impacts

There are no anticipated impacts to raptors under Alternative C.

2) Mitigation - None.

g. Waterfowl

1) Impacts

Alternative C looks for a slow, steady growth in rafting on the river. This increased growth may affect waterfowl nesting on the river. The amount of use projected will impact waterfowl less than the other alternatives. Impacts will be moderate to waterfowl in this alternative.

2) Mitigation - None.

h. Nongame Animals

1) Impacts

The slow, steady growth projected in this alternative may impact great blue herons as boating use grows and expands into Segment 6 over the next several years. The ability of herons to habituate to boating near their nesting areas is unknown.

2) Mitigation

Same as the Proposed Action.

e. Fisheries

1) Impacts

In Alternative C present management and use trends continue. Impacts to the fishery is not presently significant but may increase over time if boating use increases substantially. Lack of on-water authority may in the future prevent enforcing stipulations needed to protect the resource.

2) Mitigation

If BLM continues to manage recreation use on the public lands, stipulations may be applied to permits restricting boating use at low flows.

7. Access and Transportation

a. Impacts

Highway capacity along U.S. Highway 50 would be reduced as described in the Proposed Action which would result in an increased but unknown accident rate, and heavy traffic congestion at peak times/locations rather than traffic blockage. There would be increased traffic volume on U.S. Highways 24 and 285, but well within the designed capacities of those as they presently exist. The probability of train/pedestrian accidents would increase but remain low.

Construction costs would increase. There would be six major highway modifications implemented under the No Action Alternative. This would result in construction costs of $450,000 to $600,000. Additional construction costs because of minor highway modifications would result, but the final cost would depend on the number completed.

Maintenance costs - With no significant increase in traffic volume, there would be no increased road maintenance costs.

River user and highway traveler conflicts would continue to occur. If use stays the same or reduces and more access points are acquired, conflicts would decrease, while if use increases and few or no more access points are acquired, conflicts would increase. Presently several recreation areas pose serious traffic hazards, i.e. Parkdale, Saltlick, Lone Pine, etc.

Segment specific access acquisitions are shown in "Access Acquisitions" table. They are visually noted on the Realty and Access maps on file in the Canon City District Office.

TABLE: Access Acquisitions

Segment 1 - None.

Segment 2 - Acquire land at Ruby Mountain recreation area. Acquire one boater site below Seidels.

Segment 3 - None.

Segment 4 - Acquire land for boater site below Parkdale.

Segment 5 - None.

Segment 6 - None.

2) Mitigation

Same as the proposed action are needed.

8. Noise

a. Impacts

On-river noise impacts under this No Action Alternative would still be greater than those identified for Alternative A because of the unregulated nature of on-river boating. Offsite impacts would be the lowest of any of the alternatives because of the modest increases in projected boating use, but affected campers would still be impacted by noisy boating groups as they already are.

b. Mitigation

Require all commercial public lands outfitters to send boatmen-guides to an annual user ethics workshop held by BLM dealing with the noise and other environmental quality issues. Include noise prevention stipulations with all commercial Special Recreation Permits.

Include in all brochures interpretive information on the negative effects of both onsite (i.e., on-river) and offsite (i.e., at campgrounds) noise pollution and ways of reducing it.

9. Grazing Management

a. Impacts

The No Action Alternative would have less recreation/livestock conflicts than the Proposed Action or any of the other alternatives. Recreational use under this alternative would be similar to present use. Fencing as mitigation probably would not be required since conflicts at the recreational sites at present are acceptable.

b. Mitigation

None required

10. Safety

a. Impacts

Same as the Proposed Action

b. Mitigation

Same as the Proposed Action

C. Residual Adverse Impacts

Continuation of current management will result in a continuation of adverse impacts which are now occurring along the river. Onsite noise pollution will continue, though not as adverse as will occur if Alternative B is implemented. Heron nesting along river Segment 6 may eventually be abandoned because of the slow growth in boating use. Accidents involving disabling injuries and death are expected to continue to rise roughly in proportion to increased human use of the area.

Residual impacts to recreation resources and physical recreation characteristics include a steady growth in resource impacts from umanaged river accessible-site use on Segments 2 and 4 in particular, where the greatest amount of public lands occurs.

Adverse effects that would remain on visitor use and social characteristics of the river would be due to the unmanaged on-river use and would include undeveloped site crowding, on-river crowding and congestion, related safety problems, and loss of opportunities for users to achieve most highly-valued experiences, accelerated boater-fishermen user conflicts.

Impacts to the managerial setting remaining include continued inability to effectively manage total use of the river and adjacent public lands resulting in increased crowding and and an inability to resolve shoreline user and on-river user conflicts. Public expectations for managers to effectively deal with already existing heavy visitor use levels would continue to go unmet.

Under the No Action alternative, short-term uses of the land would have the least effect of any alternatives on long-term productivity, positive or negative. However, the steady increase in unmanaged and unregulated use would increase visitor congestion, user conflicts, and loss of experiences for which the river is so highly valued. Accompanying this would be a steay erosion in the character of the natural resource itself. Long-term productivity would eventually suffer if nothing were done to get a handle on the management of on-river use.

Inaction in responding to the need for visitor regulation and on-water river management would result in an irreversible commitment of public lands resources resulting in a changing condition of the land. Given use projections to occur by 1997 under this alternative, that commitment would lead to smaller commitments of resources than under other alternatives but nevertheless irretrievable.

D. Cumulative Impacts

Refer to the cumulative impact description for the proposed action for a complete discussion of cumulative impacts. Alternative B provides for an increase in human use, but only about one-half that of the Proposed Action (215,340 boaters). This reduced human use proportionally reduces this alternatives portion of the cumulative impact, as described under the Proposed Action. This is a 155 percent increase from the present 139,000 present use.

CHAPTER VIII
CONSULTATION AND COORDINATION

This chapter discusses the various types of predraft consultation and coordination which was accomplished with various private/public entities during the development of this draft plan.

Predraft Consultation

The first Arkansas River Management Plan was prepared in 1982. During the fall of 1986, a decision was made to revise the 1982 plan. In March 1987, a five member task force was formed to represent various constituencies and interest groups during the plan revision. Members included representatives from the Arkansas Valley Council of Governments (both Chaffee and Fremont Counties), private boaters, commercial boaters, and other recreationists. This was followed in April 1987 by the BLM and Colorado Division of Parks and Outdoor Recreation jointly initiating a Cooperative Agreement with 14 counties, municipalities and agencies along the Arkansas River (see Illustration VIII-1). This agreement provided a framework for maximum coordination of all public management actions along the river. During November and December of 1987, approximately 450 people attended eight public scoping meetings which were held to receive public reaction to a proposal that DPOR be given the authority to manage river related recreation on BLM administered public lands along the river. At these meetings the public indicated general support for the idea that DPOR be the single recreation administrator. Some other issues discussed at these meetings included allocation and carrying capacities, fees, funding for the DPOR management proposal, the planning process, possible Wild and Scenic River designation, and other property and land use concerns.

On January 22, 1988, BLM and DPOR signed a Memorandum of Understanding agreement to continue working cooperatively on the Arkansas River Recreation Management Plan. The agreement provides that BLM will enter into a Cooperative Management Agreement with DPOR as the principal management entity for river recreation upon completion of the present recreation management plan, provided that there is continued public support for such action. The intent at this time is that DPOR would manage river recreation use while the public lands would remain in federal ownership and under BLM's jurisdiction.

Passage of Colorado House Bill 1253 on April 21, 1988, gave DPOR additional authority to regulate the manner, type, time, location, and amount of recreational use on the Arkansas River from its confluence with the Lake Fork (near Leadville) to the Pueblo Reservoir.

Concurrent with the signing of the Memorandum of Understanding, the Colorado State Parks Board, which is the governing board for DPOR, appointed a 22-member Arkansas River State Recreation Area Advisory Committee (see Illustration VIII-1). Please refer to Appendix A for more detail on the Advisory Committee's selection. Several Advisory Committee meetings were held from February 19 through May 11, 1988. The purpose of the Advisory Committee was to assemble a management and development proposal for the DPOR. The completed proposal was transmitted to BLM on May 20, 1988 by the State Parks Board. It explains how DPOR proposes to manage recreational use on public lands along the Arkansas River and is presented in Chapter IV of this document (see Illustration VIII-2 for Chronology of Predraft Events).

A team composed of BLM resource specialists and other agency representives was then formed to write the draft Arkansas River Recreation Management Plan and Environmental Analysis (See Illustration VIII-3). Other entities contributing information for this draft plan include: Canon City Fire Department, Fremont County Civil Defense Department, and Colorado Division of Disaster Emergency Services.

Throughout the planning process, beginning with the initial scoping meetings in late 1987, public comment has been solicited and received. All written statements and formal testimony have been identified with a sequence number, demographic information has been determined, and substantive content summaries recorded. This documentation serves as the official comment register, from which the mailing list for all subsequent informational mailings is developed. It also provides a formal record of specific comments, opinions, and concerns which were used in the development of this draft plan.

Post Draft Consultation

August 15, 1988, begins a 45-day public review and comment period on this draft. Copies of the draft are being sent to those on the Arkansas River Recreation Management Plan mailing list. This comment period will close September 30, 1988. In addition, three open house/public hearings are scheduled for September 7, 12, and 16 in Denver, Canon City, and Buena Vista to obtain public comment on the draft plan.

A final Environmental Assessment/Arkansas River Recreation Area Management Plan is scheduled for release on November 1, 1988 with a 30-day public protest period following. The final plan decision is scheduled for January 3, 1989.

A variety of new releases and public information radio news spots are planned through the next several months to keep everyone informed of how they can become involved and of the plan's progress.

ILLUSTRATION VIII-1

COOPERATORS AND DPOR 22-MEMBER ADVISORY COMMITTEE

Cooperators

- Bureau of Land Management
- Bureau of Reclamation
  - Eastern Colorado Projects Office
- Chaffee County
  - Board of Commissioners
- City of Canon City
- City of Florence
- City of Leadville
- City of Pueblo
- City of Salida
- Colorado Division of Parks and Outdoor Recreation
- Colorado Division of Wildlife
  - Southeastern Region
- Forest Service, USDA
  - Pike and San Isabel National Forest
- Fremont County
  - Board of Commissioners
- Lake County
  - Board of Commissioners
- Pueblo County
  - Board of Commissioners
- Town of Buena Vista
- Town of Poncha Springs

Organizations Represented by the Advisory Committee

- Chaffee County Cattlemen's Association
- Chaffee County Riverfront Landowner
- City of Buena Vista
- Cities of Canon City/Florence
- City of Salida
- Colorado Environmental Coalition
- Colorado River Outfitters Association
- Colorado Trout Unlimited
- Colorado Water Congress
- Colorado White Water Association
- Colorado Wildlife Federation
- FibArk, Inc.
- Fremont County Cattlemen's Association
- Fremont County Riverfront Landowner
- High Country River Rafters
- Local Private Campgrounds
- Municipal Water Interests (Aurora, Colorado Springs, and Pueblo)
- National Organization for River Sports
- Rocky Mountain Boy Scouts of America
- Upper Arkansas Area Council of Governments
- Upper Arkansas Water Conservancy District
- Western River Guides Association

Ex-Officio Members:

- Bureau of Land Management
- Bureau of Land Management Task Force Members
- Bureau of Reclamation
- Colorado Division of Parks and Outdoor Recreation
- Colorado Division of Wildlife

ILLUSTRATION VIII-2
CHRONOLOGY OF PREDRAFT EVENTS

Date	Event
July 1986	Co-sponsored briefing by BLM and Colorado River Outfitters Association.
April 9, 1987	Cooperative agreement signed by 14 cooperators plus co-sponsors (BLM and DPOR).
March 20, 1987	Five-member task force appointed by BLM to assist in planning effort.
November 9 through December 15, 1987	Nine scoping meetings sponsored by DPOR to determine public support.
January 22,1988	Memorandum of Understanding signed by BLM and DPOR.
February 19, 1988	DPOR established an Arkansas River State Recreation Area Advisory Committee.
March 2 through May 11,1988	DPOR Advisory Committee meetings to formulate the Management and Development Proposal.
May 20, 1988	Management and Development Proposal transmitted to BLM by State Parks Board.

ILLUSTRATION VIII-3
ENVIRONMENTAL ANALYSIS TEAM MEMBERS FOR ARKANSAS RIVER RECREATION MANAGEMENT PLAN

Name	Assignment
Paul Trentzsch	Team Leader/Safety
Bill Schneider	Wilderness/VRM/ACEC/Wild and Scenic Rivers
Erik Brekke	T&E Species/Animal Life (all except livestock)
Dave Hallock	Lands/Realty/BLM Land Use Plan Consistency/ Access and Transportation
Jim Sazama	Grazing Management/Prime or Unique Farmlands/Vegetation (Range)
Jim Cunio	Vegetation (Forest)
Dan Grenard	Minerals/Geology/Topography/Alluvial Valley
Ken Smith	Planning/Environmental/Public Affairs
John Beardsley	Cultural/Paleontological
Howard Wertsbaugh	Soils/Air/Water/Climate/Floodplains and Wetlands/Hydrology
Jeanette Pranzo	Socio-economics
Don Bruns	Recreation Resource/Noise
Tim King	Colorado Division of Parks and Outdoor Recreation Representative
Doug Krieger	Colorado Division of Wildlife Representative
Adrian Neisius	Review
Lanny M. Berta	Review
Donnie Sparks	Review

CHAPTER IX
APPENDICES

APPENDIX A

ARKANSAS RIVER STATE RECREATION AREA MANAGEMENT PLAN

DRAFT

MAY 19, 1988.

Submitted to:
THE COLORADO STATE PARKS BOARD

Developed by:
THE ARKANSAS RIVER RECREATION
ADVISORY COMMITTEE

With assistance from:
COLORADO DIVISION OF PARKS AND
OUTDOOR RECREATION
BUREAU OF LAND MANAGEMENT
COLORADO DIVISION OF WILDLIFE
BUREAU OF RECLAMATION
UPPER ARKANSAS AREA COUNCIL OF
GOVERNMENTS
BUREAU OF LAND MANAGEMENT TASK FORCE

356

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ARKANSAS RIVER
STATE RECREATION AREA
MANAGEMENT PLAN

The Upper Arkansas River, from Leadville to Pueblo, is recognized as one of the premier recreation rivers in the United States and the world. Enjoying an international reputation for the quality and diversity of its whitewater boating opportunities, the Arkansas is also widely known for the fishing, sightseeing, and other recreation the area provides.

Recreation visitation has experienced a precipitous increase during the past decade. Several recreation facilities along the river are stretched to their maximum capabilities. Other areas, devoid of recreation management or resource protection, are also being used, with corresponding serious implications for visitor health and safety, and resource protection. Conflicts between different groups of recreationists, or between recreationists and locals, seem to some to be inevitable. These issues, and others, demand a more comprehensive management plan for recreation along the Arkansas River.

The Draft Arkansas River Recreation Area Management Plan is such a management plan. The draft plan was prepared by the Arkansas River State Recreation Area Advisory Committee. It represents a great deal of time, energy, and committment by the members of the Committee. The Committee's efforts have been consistently exemplified by a sincere attempt to provide a workable management framework. None the less, this draft document is subject to change through the public involvement process.

The draft plan is a vital expression of the needs and concerns of the users along the Arkansas River. A wide spectrum of users have had the opportunity to have their voices heard during the development of this document, as well as at several public meetings.

The process of developing a comprehensive plan for recreation along the Arkansas began in earnest over a year ago. In early 1987, the Division of Parks and Outdoor Recreation (State Parks) and the Bureau of Land Management (BLM) began discussions regarding the formulation of a new recreation plan for the river. This led to the signing of a Cooperative Agreement between State Parks and the BLM, followed later by an additional agreement that also included the counties and towns along the river, and other state and federal agencies.

As part of the planning process, BLM appointed a five member advisory Task Force. In September of last year the Task Force proposed that State Parks was the agency best suited to manage recreation along the Arkansas River. This recommendation was presented to the public through a series of scoping meetings, held in the Upper Arkansas valley and at other locations around the state, last fall. Public comment was overwhelmingly in favor of State Parks' management of recreation along the river. Public sentiment also favored the establishment of a citizens' advisory committee to help formulate the recreation plan.

In January of 1988, State Parks and BLM signed a Memorandum of Understanding which stated that "provided that there is continued public support in the final RAMP (Recreation Area Management Plan), and all related legal requirements are satisfied, . . . BLM will enter into a CMA (Cooperative Management Agreement) with" State Parks "as the principal management entity for river recreation" (target date January 1, 1989).

Concurrently with that action, the Colorado Board of Parks and Outdoor Recreation appointed an 18-member (later modified to 22-member) Arkansas River State Recreation Area Advisory Committee. The Board appointed organizations that had come forward during the public involvement process in the fall and early winter. These were organization that had expressed substantial interest in the future of recreation management on the Arkansas River. The four additional members presented their credentials at the first meeting of the Advisory Committee. The Advisory Committee recommended to the Board, following Committee discussion and a majority vote, that the four additional members be added. The organizations seated on the Committee are listed on the Advisory Committee Membership list included in this document.

The Committee held its initial meeting on February 19, 1988 in Salida. At that meeting the Committee was organized into two subcommittees, one of which represented recreation-user organizations, the other representing valley residents, local government entities, business owners, and water interests. Subsequent meetings of either the full commitee or the two subcommittees were held in Salida (March 2), Howard (March 9), Buena Vista (March 23), Salida (March 30), Canon City (April 6), Buena Vista (April 11), Pueblo (April 23), Salida (April 27), and Buena Vista (May 11).

The full committee elected to adopt a process whereby discussions related to issues was first undertaken in the subcommittees. River recreation issues were considered by specific stretches of the river (segments), and finally within an areawide category. The river segments had been roughly defined by the Task Force and in the Cooperative Agreements signed by State Parks, BLM, and others. State Parks staff presented the subcommittees with possible goals, objectives, and implementing actions for the different issues faced in each segment of the river. These goals, objectives, and implementing actions were developed from information brought to the attention of State Parks and BLM by the Task Force or through the public scoping meeting process.

The wording of the goals, objectives, and implementing actions was discussed in each subcommittee. Changes, including additions and deletions, were suggested and voted upon. A majority vote passed subcommittee wording to the full committee for consideration. The full Committee then met to discuss and rectify the discrepancies between the two subcommittee versions. Using a modified parlimentary procedure, agreed to by the full Committee at the first meeting, motions were put before the Committee, discussed, and voted on. A two-thirds vote was required for a motion to pass, resulting in a full Committee position on the draft wording. This process resulted in the plan that follows.

Any Committee member that so desired could be recorded as officially opposed to any action taken by the full Committee. These positions are noted in the document with footnotes. In addition, any Committee member could file a

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"minority report" stating his/her position onthe issue/action and suggesting alternative wording. These minority reports are filed at the end of the document.

Following review by the Parks Board, the plan will be submitted to the BLM and incorporated into their Recreation Area Management Plan (RAMP) and Environmental Assessment (EA). The State Recreation Area Management Plan will be the proposed action in the BLM's RAMP/EA (See the attached BLM RAMP outline). The BLM document will be made available for public review August 1, 1988. Following a 45 day review period, State Parks and BLM will respond to public comments and make the modifications that are needed. This phase should be completed during the month of October. All changes will be reviewed and approved by the Parks Board. In mid-November the final document, including the proposed action, will be made available to the public with a decision record. The period of public protest will end in late December. (See flow diagram)

The draft plan provides for many different types of recreation, while still considering the rights of residents and the vitally important need to protect the natural resources of the area. This plan also provides a mechanism for future change, as we, the managers, and the "users" along the river work together to make the Arkansas River a well managed, quality State Recreation Area. The plan represents a long-term set of guidelines for both managers and users. Not all parts of the plan will be implemented immediately. However, State Parks will continue to strive for eventual implementation.

This document is in draft form for public review. It should not be considered the final plan.

ARKANSAS RIVER STATE RECREATION AREA
ADVISORY COMMITTEE MEMBERSHIP

Subcommittee A

Colorado River Outfitters Assoc.

Western River Guides Assoc.

Colorado Wildlife Federation

Colorado Trout Unlimited

National Org. for River Sports

Colorado White Water Assoc.

High Country River Rafters

Colorado Environmental Coalition

Rocky Mt. Boy Scouts of America

FibArk, Inc.

Subcommittee B

City of Salida

Cities of Canon City/Florence

City of Buena Vista

Chaffee County Riverfront Landowner

Fremont County Riverfront Landowner

Colorado Water Congress

Municipal Water Interests
(Aurora, Co. Springs, Pueblo)

Upper Ark. Water Conservancy Dist.

Chaffee County Cattlemen's Assoc.

Fremont County Cattlemen's Assoc.

Local Private Campgrounds

Upper Ark. Area Council of Gov't

Ex Officio Members

Colorado Division of Parks and Outdoor Recreation

Colorado Division of Wildlife

Upper Arkansas Area Council of Governments

USDI Bureau of Reclamation

USDI Bureau of Land Management

BLM Task Force

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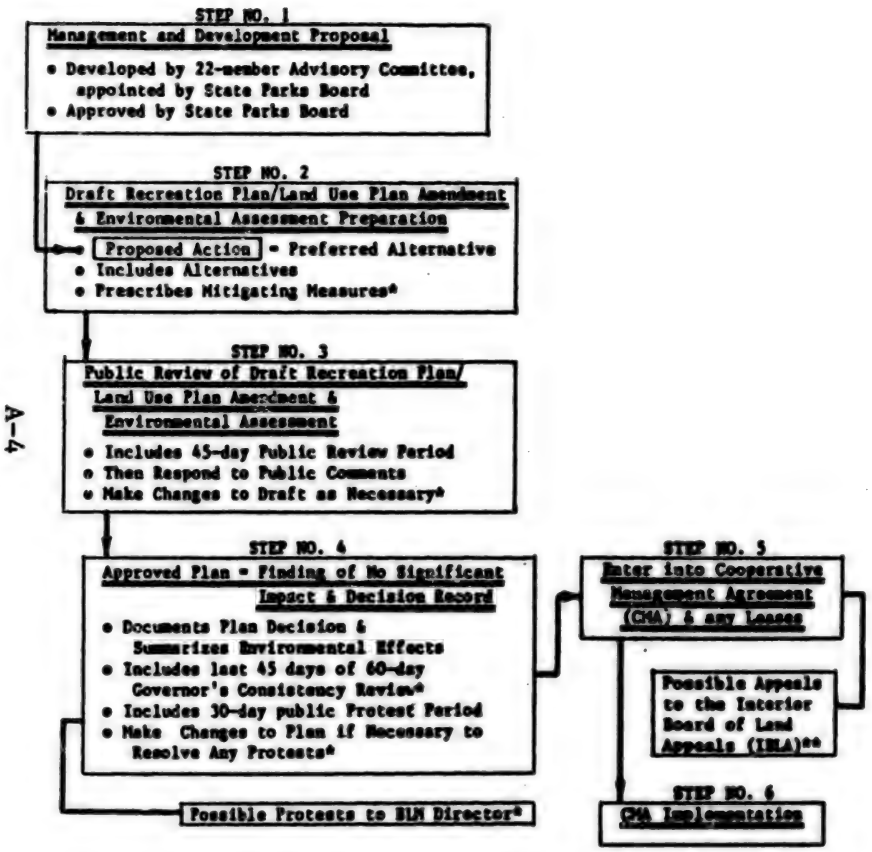
ARKANSAS RIVER RECREATION MANAGEMENT PLAN
Steps Following Preplanning Efforts



STEP NO. 1

Management and Development Proposal

- Developed by 22-member Advisory Committee, appointed by State Parks Board
- Approved by State Parks Board

STEP NO. 2

Draft Recreation Plan/Land Use Plan Amendment & Environmental Assessment Preparation

- Proposed Action = Preferred Alternative
- Includes Alternatives
- Prescribes Mitigating Measures*

STEP NO. 3

Public Review of Draft Recreation Plan/Land Use Plan Amendment & Environmental Assessment

- Includes 45-day Public Review Period
- Then Respond to Public Comments
- Make Changes to Draft as Necessary*

STEP NO. 4

Approved Plan = Finding of No Significant Impact & Decision Record

- Documents Plan Decision & Summarizes Environmental Effects
- Includes last 45 days of 60-day Governor's Consistency Review*
- Includes 30-day public Protest Period
- Make Changes to Plan if Necessary to Resolve Any Protests*

Possible Protests to BLM Director*

STEP NO. 5

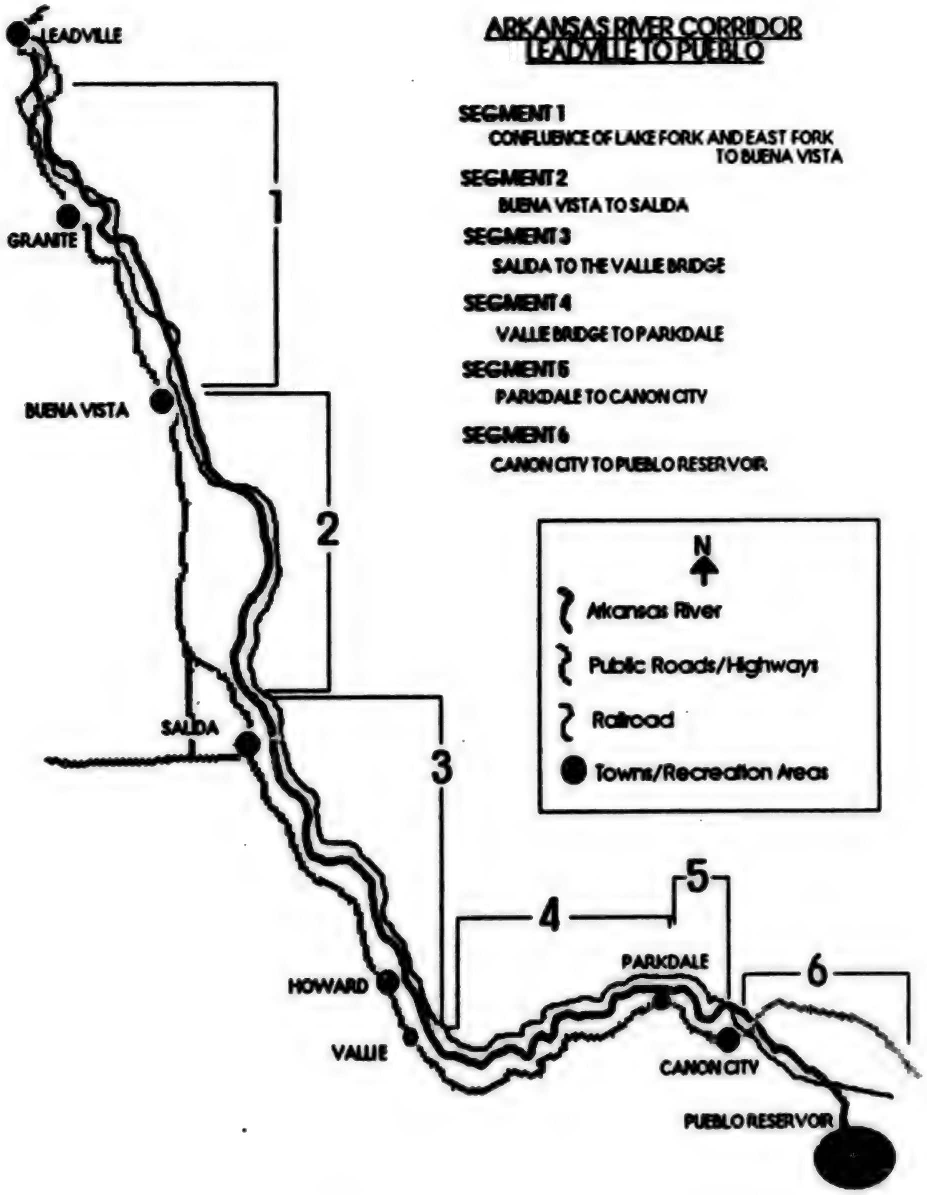
Enter into Cooperative Management Agreement (CMA) & any Leases

Possible Appeals to the Interior Board of Land Appeals (IBLA)**

STEP NO. 6

CMA Implementation

* Note: These items may/will change the plan.
** Note: This may change the CMA.



ARKANSAS RIVER CORRIDOR LEADVILLE TO PUEBLO

SEGMENT 1
CONFLUENCE OF LAKE FORK AND EAST FORK TO BUENA VISTA

SEGMENT 2
BUENA VISTA TO SALIDA

SEGMENT 3
SALIDA TO THE VALLIE BRIDGE

SEGMENT 4
VALLIE BRIDGE TO PARKDALE

SEGMENT 5
PARKDALE TO CANON CITY

SEGMENT 6
CANON CITY TO PUEBLO RESERVOIR

359

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PUBLIC LANDS RECREATION GOALS (To fulfill BLM mandates on public lands)

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Goal: Multiple Use

0 Livestock Use:

- Provide for continued utilization of forage, water and trailing at current use levels through the planning area, except at intensively developed sites where enclosures are needed to prevent user-livestock conflicts, provided that allotment management needs for livestock watering will be met.

0 Wildlife Management

- Provide for continued wildlife habitat protection and improvement projects. Mitigate conflicts between recreation users and wildlife species to ensure their continued existence.
- Protect bighorn sheep habitat, and prevent user conflicts between bighorn sheep and recreation users.
- Prevent conflicts between recreation users and other terrestrial and aquatic wildlife species.

0 Fisheries Management:

- Provide for continued protection of fisheries and aquatic habitat and for improvement projects to reduce impacts from increasing river recreation use, fluctuations of flows, and possible changes in water quality (e.g., existing heavy metals problems, potential additional sedimentation stemming from developments, etc.). Ensure compatability of sports fishermen with other recreation users.

0 Threatened and Endangered Species:

- Provide for the conservation of Federally and State-listed plant, animal, aquatic ecosystems, and plant associations that are rare endemic, and threatened in the planning area. Ensure that crucial habitats of threatened, endangered, and sensitive species are managed and/or conserved to maintain or expand their existence.

0 Wilderness Management

- Protect the primitive values of the adjacent Browns Canyon Wilderness Study Area (WSA), and maintain existing opportunities for primitive and unconfined types of recreation.

0 Forestry

- Maintain existing forestry resources to enhance recreation opportunities but not for consumptive uses.

0 Cultural Resources

- Protect cultural resources from vandalism and development, both within and immediately adjacent to the planning area.
- Build an awareness and appreciation of cultural and natural history resources through visitor services (e.g., interpretation, information, etc.).

0 Visual Resources

- Ensure that all facility developments are visually harmonious with adjacent environs.

0 Minerals

- Minimize conflicts between fishermen, river boaters and recreational gold panners and suction dredgers so that both valid uses can co-exist.
- Recognize valid existing and future commercial mining operations.

0 Land Use/Realty

- Provide for valid existing rights and accommodate public needs for new utility rights-of-way within the planning corridor.
- Retain public lands within the corridor in public ownership, except as necessary to accomplish management objectives outlined in this plan (e.g., through lease), and acquire additional parcels through exchange which are needed to accomplish objectives.

0 Soil and Vegetation

- Stabilize natural and man-caused soil erosion and vegetation loss at developed recreation sites and other high-use areas. Incorporate wise soil and vegetation conservation practices into all new development projects.

0 Water

- Protect in-stream water quality by providing adequate human and solid waste disposal facilities at all intensively used recreation sites.

0 Air

- Maintain air quality standards throughout the corridor and, in addition, maintain visibility standards adjacent to the Browns Canyon Wilderness Study Area constrained by BLM's interim management guidelines.

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Areawide Goals:

Goal: Instill a wise river and public land use ethic for all users regarding
[I.] river etiquette, respect for private lands, outdoor ethics, etc.

O [A.] Develop an educational/interpretative program for use at all appropriate developed sites, to instruct users about resource use, special or unique aspects of the resource, outdoor ethics, and/or user etiquette.

- Provide information/instructional signs at all appropriate sites. [I-A-1]
- Develop and make available for distribution, brochures describing regulations, as well as ones designed to enhance visitor's outdoor ethics and user etiquette. [I-A-2]
- Focus on wildlife/environmental education at wildlife turnoffs. [I-A-3]
- Provide information about fishing regulations and etiquette at fishermen's access points. [I-A-4]
- Provide environmental education, informational signing about resource use and special aspects of the area at scenic pull-offs. [I-A-5]
- Focus on environmental education/protection (low impact use, etc.), outdoor ethics, and river user etiquette at river access points. [I-A-6]
- Provide information signing where appropriate about services, facilities, opportunities, etc., at major sites such as Buena Vista, Fishermens Bridge, Ruby Mountain, Hecla, Salida, Coaldale, Cotopaxi, Five Points, Parkdale, Canon City, and Florence. [I-A-7]
- Provide information about private property owners rights and public land boundaries. [I-A-8]
- Help the user to understand the system-wide nature and interrelatedness of the resource and the people and communities that live here. [I-A-9]
- Recommend that boaters use one channel, where feasible, to allow fishermen and other recreationists to use the other bank. Sign the appropriate channel and include in informational brochures, etc. [I-A-10]

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Goal: Minimize adverse effects of recreation use and reduce conflicts between
[II.] users related to Arkansas River recreation use and management between recreationists, other land users, and public and private land owners.

O [A.] Reduce problems of river recreation user trespass on private lands, especially in relation to river access.

- Provide maps of all public land boundaries, in cooperation with the Bureau of Land Management (BLM) and local entities, to eliminate accidental trespass (work to make sure boundaries are correct and change if needed). [II-A-1]
- Sign all public-private land boundaries to reduce incidents of trespass on private lands. [II-A-2]
- Post signs along highway, in cooperation with Highway Department, indicating public access points and warning people of penalties of trespass on private lands (similar to littering signs). [II-A-3]
- In particular, post private lands at highway and other locations where recreationists have typically trespassed. [II-A-4]
- Protect landowner fences along the river, while protecting the safety of boaters, especially with regard to high and low water problems with fences. [II-A-5]

O [B.] Protect the rights of other public land users and uses to continue to utilize the public resource for a variety of multiple uses on public lands both within and adjacent to the Recreation Area's boundaries.

- In areas, and at times, where other uses, e.g. grazing, mining, hunting, etc., may be present, post information explaining what uses may occur. [II-B-1]
- Provide information to non-recreation users of the public resource concerning the recreation uses of the area. [II-B-2]
- Where possible cooperate with local communities, organizations, industries, and individuals to develop an information base about the benefits and values of the other uses of the public resource. [II-B-3]
- Focus on education and information as the preferred means to encourage recreationists to respect the rights of other users. [II-B-4]

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.361

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O Gain a better understanding of the needs and requirements of [C.] landowners, both public and private along the river.

- Work with private landowner groups to keep them informed about future changes in area management and recreation use. [II-C-1]
- Provide opportunities for public comment about future changes in Area management and recreation use in local communities along the river. [II-C-2]
- Work with local government organizations in a two-way relationship to keep them apprised of changes in Area management and recreation use, and to keep abreast of actions and development that they might be undertaking. [II-C-3]
- Work with appropriate individuals, agencies and organizations, that have a vested interest in the resources and use of the river corridor, such as water use, agricultural users, etc. [II-C-4]
- Work with the BLM and other government land or resource management agencies to coordinate plans and actions that utilizes a systems approach to management. [II-C-5]

O Protect the rights and property of the railroad throughout the [D.] river corridor where the line is within the boundaries of the Recreation Area.

- Work with the railroad to prevent trespass along rail line property. [II-D-1]
- Where the existing grade is used by recreationists to scout rapids, gain access to fishing areas, or where possible, develop alternative routes for those activities. [II-D-2]
- Work with the railroad to secure necessary access points, for river recreation use and use of other public lands, that do not interfere with the operation of the railroad. [II-D-3]

Goal: [III.] Protect consumptive water user's rights and structures (e.g., work with irrigation districts, municipalities, etc.) while considering the water needs of recreationists.

O Ensure existing and future water uses consistent with the Colorado [A.] State Constitution and statues.

- Work with water interests to help inform river recreation users of the statues and authorizations that govern water flows along the upper Arkansas above Pueblo Reservoir [III-A-1]

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- Minimize adverse effects on water users caused by flow scheduling for recreation purposes. [III-A-2]
- Work with all recreation interests so that the needs and concerns of all groups may be voiced. [III-A-3]
- Where flexibility in manipulating flows does exist, recognize biological requirements as the primary consideration, i.e., maintain requirements for fisheries and natural ecosystems first. [III-A-4]
- Post and protect water diversion or storage structures. [III-A-5]
- Help develop a better understanding of the nature of lands that have federal power/water withdrawals, reserves, etc. [III-A-6]

Goal: [IV.] Recognize that highways and county roads provide the primary, and in some cases the only, means of access for residents in to the area; for recreationists and others who use this area, transportation impacts need to be identified and addressed.

O Work with the Highway Department to recognize all Federal and State [A.] roads as an important component to the Recreation Area.

- Encourage the Highway Department to provide information signing about services, facilities, opportunities, special rules, etc., that are available in communities along the river or where appropriate. [IV-A-1]
- Work with the Highway Department to develop scenic turnoffs at areas designated by appropriate organizations. [IV-A-2]
- Work with the Highway Department to provide environmental education/informational signing about resources and special aspects of the area at scenic pull-offs. [IV-A-3]
- Post signs along highway, in cooperation with Highway Department, indicating public access points and warning people of penalties for trespass on private lands (similar to littering signs). [IV-A-4]
- Post private lands at highway and other locations where recreationists have typically trespassed. [IV-A-5]
- Work with the Highway Department, Tourism Board, etc., to begin displaying the Arkansas River State Recreation Area on Highway Department road maps. [IV-A-6]

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O [B.] Work with local communities and the Governor's office to improve coordination and cooperation between State Parks and the Highway Department, especially as related to appropriate State and Federal Highways as an integral component of the Recreation Area.

- Seek to have the Highway Department recognize, through allocation of gas and other highway tax dollars, the importance of local highways to the accessibility and use of the Recreation Area and the importance of the area to local and economic well being and development. [IV-B-1]

O [C.] Ensure that operation of the Recreation Area fully recognizes the importance of local and county government entities in road maintenance to visitor access and use.

- Develop cooperative agreements incorporating design review process with local and county governments in the area regarding road maintenance to Recreation Area facilities and river access points. [IV-C-1]
- State Parks will support the municipalities and counties in their efforts to obtain adequate Highway User Tax funds for road maintenance. [IV-C-2]

Goal: [V.] Provide law enforcement capabilities and visitor services that are adequate to provide for protection of private property and visitor safety as well as to fulfill management prescriptions in the plan.

O [A.] Provide adequate law enforcement in key areas consistent with other goals and objectives (e.g., user health and safety, cooperation with local law enforcement agencies, and resource protection).

- Provide easy access of Park rules and Regulations to river users. Distribute such information on park brochures, bulletin boards, information boxes, and at ranger stations, local chambers of commerce, and tourist information centers. [V-A-1]
- Post Recreation Area boundaries. [V-A-2]
- Post proper signage at river segment boundaries. [V-A-3]
- Work to provide a system of identification that would be prominently displayed on private boater crafts.[1] [V-A-4]

Note:[1] - Colorado White Water Association, National Organization for River Sports, High Country River Rafters, First in Boating the Arkansas, requested to be documented as opposed to this action.

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O [B.] Provide adequate on ground and on river law enforcement authority and manpower to ensure that visitor management actions specified in the plan are properly implemented and consistent with the specific managerial objectives being established for each river segment.

- Employ an adequate number of seasonal/full time rangers with law enforcement commissions to meet the law enforcement requirements of the area and its use. [V-B-1]
- On high use weekends and holidays, station rangers to patrol at major ingress/egress points and river rangers to patrol the area, consistent with their normal duties. [V-B-2]
- Implement cooperative arrangements with local, county, federal, and other state, law enforcement agencies for concurrent jurisdiction (DPOR has this authority). [V-B-3]
- Provide law enforcement Rangers with avenues for adequate access to (additional) Park, local, county, federal and/or other state, law enforcement personnel. [V-B-4]

O [C.] Pursue and implement cooperative agreements with local, county, federal, and other state, agencies to provide adequate visitor services (Wildfire, Emergency Medical Services, Search and Rescue Operations).

- WILDFIRE: Develop an emergency communication system with the BLM and county/local agencies to alert them of all wildfire emergencies. [V-C-1]
- Include in the cooperative agreement that the appropriate agency will respond as initial attack and fire suppression crew for wildland fires on public lands. [V-C-2]
- Sign a cooperative agreement with local and county fire crews for additional support with range fires. [V-C-3]
- Provide basic fire training to all Park personnel. [V-C-4]
- Work with affected agencies to develop additional funding resources to support fire suppression. [V-C-5]
- SEARCH AND RESCUE: Develop an emergency communication system with the BLM and county/local agencies to alert them of Search and Rescue operations. [V-C-6]
- Pursue and implement cooperative agreements for response to Search and Rescue emergencies with the appropriate local, county, federal, and other state, agencies [V-C-7]
- Work with affected agencies to develop additional funding resources to support search and rescue operations. [V-C-8]

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- EMERGENCY MEDICAL SERVICE: Develop an emergency communication system with the BLM and county/local agencies to alert them of Emergency Medical Service operations. [V-C-9]

- Pursue and implement cooperative agreements for the provision of emergency medical services with the appropriate local, county, federal, and other state, agencies/organizations. [V-C-10]

- Require Park Rangers to have "CPR" and "Advanced First Aid" certification (this is already required by DPOR for Park Rangers). [V-C-11]

- Work with affected agencies to develop additional funding resources to support emergency medical services. [V-C-12]

- Encourage involvement and support from private and commercial interests, including financial support. [V-C-13]

Goal: [VI.] Provide facilities in the amount, location, and character needed to provide reasonable visitor safety and meet user needs appropriate to the types of recreation being provided.

[A.] 0 Provide facilities on a segment by segment basis.

  - Work with the Advisory Committee and interested agencies to designate specific sites within each river segment for facility development. [VI-A-1]

  - Work closely with municipalities to help improve/develop sites that are within the state park corridor. [VI-A-2]

  - Work closely with the counties and make recommendations on existing safety hazards. [VI-A-3]

GOAL: [VII.] Protect the environment (to the maximum extent possible while simultaneously allowing for a diversity of recreation opportunities).

[A.] 0 Monitor the environmental impacts of recreation use along the river, and annually review trends and status.

  - Inventory all sites and shoreline locations by December 1989 using modified Frissell's classification and Code-A-Site inventory methodology to establish a baseline database of sites with evidence of human impacts. [VII-A-1]

  - Work with Colorado Natural Areas Program (CNAP), Division of Wildlife (DOW), Bureau of Land Management (BLM), Soil Conservation Service (SCS), etc., to develop baseline data on resource characteristics for all public lands not inventoried above that are within the recreation area. For example, include information about cover type, soil type, use restrictions, etc. Update this information database annually, using suitable sampling techniques. [VII-A-2]

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- Provide staff analysis and recommendations, coordinated with BLM, for limits of acceptable change methodology. Initially, adopt the approach that when sites exceed a modified Frissell's Level 3, usage will be adjusted if warranted the site will be closed and regenerative actions will be taken. Based on Committee review, provide recommendations and suggested management actions to Parks Board. [VII-A-3]

- Conduct annual surveys to identify actual use along river, by section, and breakdown (percentages) among different river surface users, e.g., 60% commercial boaters, 15% private rafters, 25% private kayakers. Also conduct annual sample surveys of other recreationists using the area. Provide survey information to Advisory Committee and public, in conjunction with site inventories and resource analysis studies. [VII-A-4]

- Conduct user characteristics/preference studies in conjunction with the system-wide State Parks survey, generally completed every five years and next scheduled for 1988. Provide user study information to the Advisory Committee. Provide report to Advisory Committee and Parks Board with identification of trends and suggested changes in methodology. [VII-A-5]

- Review inventory, user counts, trends and user characteristics/preferences, and determine appropriate management actions, including changes in carrying capacity, allocation and use. Amend the Arkansas River Management Plan accordingly following state and federal public review processes. [VII-A-6]

- State Parks, Division of Wildlife, and the Colorado Water Board should cooperate in studies to determine what flow schedules on the Arkansas River may most benefit recreational boating and fishing without injury to water rights owners. New and creative ways should be investigated to determine how recreational users and water owners can cooperate so that water owners and recreational users can both obtain the maximum benefits from the Arkansas River. [VII-A-7]

- Division of Wildlife should fund a study (to be completed by 1992) of research literature to determine the effects boating has on fishing. [VII-A-8]

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O [B.] Work with the DOW, BLM, and the Highway Department, to reduce the number of deer kills along the corridor, and especially in Segments 3 and 4.

- Work with all agencies to identify how best to alleviate this problem. [VII-B-1]

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- Where possible develop wildlife watering sources so that wildlife are not forced to cross the Highway for water. [VII-B-2]

O [C.] Work to improve/develop the water quality through proper sanitation maintenance (sewage control) and facility design.

- Monitor sanitation problems and if necessary develop regulations to have commercial operations provide on river sanitation facilities. [VII-C-1]
- Locate sanitation facilities as far back from the river as feasible. [VII-C-2]
- Do not position portable restrooms at areas where it would be possible for vandals to dump them into the river. [VII-C-3]
- Do not accept/include portable restrooms as part of the permanent sanitation development. [VII-C-4]
- Use the latest/best techniques available to provide proper sanitation maintenance at vault toilets (e.g., Clivus Multrum). [VII-C-5]
- Maintain sanitation facilities so that freezing and cracking do not occur. [VII-C-6]
- Work with water interests for a list of acceptable herbicides/insecticides/pesticides to be used in park maintenance operations. [VII-C-7]
- Grade all facilities so that they do not drain directly into the river. [VII-C-8]

O [D.] Park activity should not cause a change in the existing stream classification that would result in the upgrading of waste water treatment not otherwise required.

- Work with municipalities, local organizations, Department of Health, and other organizations, to maintain water quality and ensure maintenance of existing classification. [VII-D-1]

Goal: [VIII.] Assist local and state historical societies to note and sign significant points of interest along the park corridor.

O [A.] Where possible incorporate significant historical information at pull-offs and appropriate areas.

Goal: [IX.] Protect federal and state-listed plants, and animals, that are threatened, endangered, or listed as special consideration species (as provided by law), along the river corridor and likely to be affected by the Recreation Area.

O [A.] Provide for the conservation of federal-listed and state-listed plants, and animals, that are threatened, endangered, or listed as special consideration species (as provided by law), in the planning area.

- State Parks will coordinate efforts from Colorado Natural Areas Program, DOW, USF&WS, etc., to identify all plants, and animals, that are threatened, endangered, or listed as special consideration species (as provided by law), that are found in the vicinity of the Recreation Area. [IX-A-1]

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- Conduct a rare & endangered resource inventory of each developed site along the river. [IX-A-2]
- Conduct a rare & endangered resource inventory of each site proposed for development in the Recreation Area. [IX-A-3]

O [B.] Ensure that critical habitats of threatened, endangered, and species of special concern, as provided by current statutes, are managed and/or conserved to maintain or expand their existence.

- Develop appropriate measures to manage, conserve or expand the habitats of any threatened and endangered, and species of special concern, found in the area. [IX-B-1]
- Work with BLM, DOW, and other agencies to protect the existence of any threatened, endangered, and species of special concern, known to exist on nearby public lands. [IX-B-2]

O [C.] Ensure that the Browns Canyon Wilderness Study Area remains an area for outstanding opportunities for solitude.

- Restrict access to only those recreational activities typically allowed in Wilderness, consistent with the Wilderness Act. [IX-C-1]
- Preserve the archeological and historical values of the area. [IX-C-2]

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Goal: [X.] Respond to the needs of a variety of river recreation users by cooperating with local communities, and providing avenues for stimulating local economic development by providing greater resource protection, visitor services, and facility management actions.

O [A.] Involve local communities in the identification of recreation user needs.

- Work with local communities, organizations, industries, and individuals to develop an information base about the needs and requirements of recreation users. [X-A-1]
- Make resource protection a primary consideration of all future recreational management decisions. [X-A-2]
- Develop facilities and manage areas consistent with the physical, social, and managerial prescriptions listed for each segment. [X-A-3]

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Goal: [XI.] Ensure that services and developments proposed for the Recreation Area are consistent with those provided in other State Park and Recreation Areas, as provided by law.[2]

O [A.] Provide services at all developed sites (based on the following objectives and implementing actions).

- Determine through simple survey methods the prevailing average price and occupancy rates of similar (substitute) services, at each level of service, from businesses in the local area (Upper Arkansas Valley). [XI-A-1]
- Try to provide a different set of services and a different level of development from what is provided by the private sector. [XI-A-2]
- Aim development at a different market segment from that served by the private sector; provide different services and different levels for the focus segments. [XI-A-3]

Goal: [XII.] Implement and collect user fees, based on a user pay philosophy, that are returned to the recreation area.[3]

O [A.] Require all users to pay an appropriate amount for use of the resource, the recreation opportunities provided, and the recreation experience.

- The outfitter license program will remain the same as in past years, but will be reviewed and updated as needed by DPOR. [XII-A-1]

Note:[2]- Local Private Campground Owners, National Organization for River Sports, requested to be documented as opposed to the wording of this action.
Note:[3]- National Organization for River Sports, Colorado White Water Association, High Country River Rafters, requested to be documented as opposed to this action.

- DPOR will take over permitting of outfitters along the Arkansas from the BLM. [XII-A-2]
- DPOR will devise systems for collection of user fees, and for identification of recreation users, as related to recreation use within the recreation area.[4] [XII-A-3]
- DPOR will seek to ensure that the fee system is based on equality, equity, need, and social efficiency to the greatest extent possible. [XII-A-4]
- Through 1992, DPOR will encourage all users to become better educated about the regulations that govern recreation use along the Arkansas, and better educated about the needs and concerns of other users, residents, and interests along the river. Strict or excessive (in number) regulations will not be encouraged. [XII-A-5]

O [B.] Ensure that collected fees are returned to the resource and the local area.

- Fees will be collected for day use and camping. [XII-B-1]
- Collected fees will be deposited in the State Parks Cash fund. [XII-B-2]
- Consistent with normal practices, fees will be returned to the Recreation Area for operation, maintenance, and development, of the area. [XII-B-3]
- Other sources of State Parks' funds will also be available to be used at the Recreation Area. [XII-B-4]
- Outfitter fees may continue to be collected, both for licensing of outfitters and permits for use of the Recreation Area. [XII-B-5]
- Outfitter fees collected for use of the Arkansas River State Recreation Area will be returned to the Area. [XII-B-6]
- During 1989, commercial outfitting fees will not exceed 3% of gross.[5] [XII-B-7]
- Addition permit fees for use of the Recreation Area will be determined by the State Parks' Board, with recommendations by the Advisory Committee, and consistent with statues and legislative intent. [XII-B-8]

Note:[4],[5]- National Organization for River Sports, Colorado White Water Association, requested to be documented as opposed to this action.

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0 Provide facilities and services for the visitors who paid the fees,
[C.] at least at a level equal to the fees collected.

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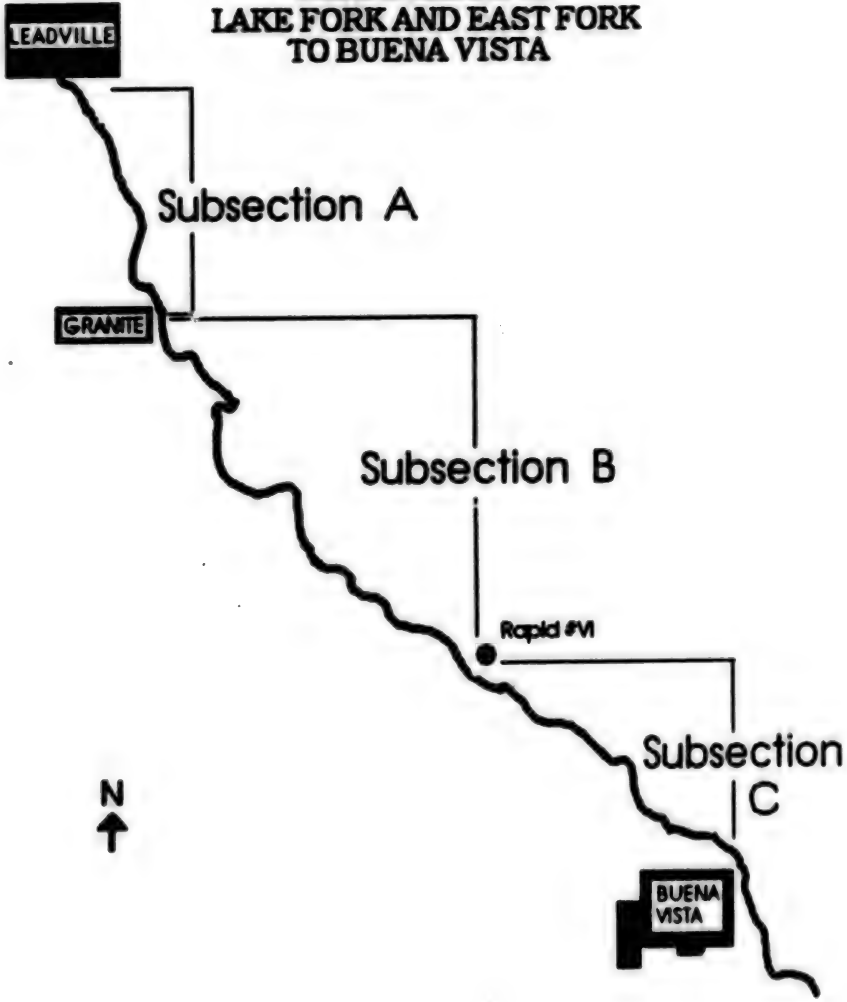
- Operation of the area will, as much as possible, be on a user funded basis. [XII-C-1]
- Other sources of Parks' funds may also be available to be used at the Recreation Area. [XII-C-2]

Goal: Define future decision making process.
[XIII.]

0 Management priorities will be determined by DPOR based on the
[A.] Recreation Area Plan, funding appropriations and other available resources. The first year of plan implementation will primarily include studying resource and visitor characteristics, installing appropriate signage, providing visitor education, and responding to safety needs.

SEGMENT ONE

CONFLUENCE OF LAKE FORK AND EAST FORK TO BUENA VISTA



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Segment #1

Goal: Maintain the "highway rural" physical and managerial characteristics,
[I.] but restrict visitor use consistent with the segment's "roaded open" social prescription

O Ensure that by 1992, resources are managed consistent with the
[A.] following prescriptions:

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Physical (Land & Facilities)
Manage for a substantially modified landscape having both manmade and natural features, providing for several specialized facilities (described below) for user convenience and to accommodate a number of users.

Social (Visitors)
Allow moderate concentrations of users, frequent contact with others is to be expected.

Managerial (Agency/Intergovt. Mgt.)
Implement several visitor management controls and regulations, including permits for all overnight camping users. Law enforcement personnel are moderately visible. Land uses like grazing, mining, and water control structures may occur. Regular highway vehicles and off highway vehicle (OHV) use occurs and is common.

- Investigate during 1989 for consistency with all prescriptions. [I-A-1]
- Review the investigation with the Bureau of Land Management (BLM) to make recommendations about corrective measures. [I-A-2]
- Provide results to the organizations represented on the Advisory Committee. [I-A-3]
- Have the Advisory Committee review for compliance and make suggested changes in actions. [I-A-4]

Goal: Maintain this segment's outstanding capability for kayaking, white
[II.] water canoeing, rafting, and fishing while preventing significant user conflicts from occurring.

O Maintain the high quality of private kayaking, with fishing and
[A.] rafting allowed, over the course of a use season and reviewed annually.

- Conduct user counts during boating season, i.e. access site sign-in system to assist in user count. [II-A-1]

- Make recommendations to the Advisory Committee on proposed changes. [II-A-2]
- Allow occasional special boating events to be scheduled on this segment. [II-A-3]

O Recognize inherent differences in both resource character and
[B.] resulting user needs on three distinct Subsections:

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Subsection A: Leadville to Granite--manage primarily for fishing use.
Subsection B: Granite to the bottom of Rapid #6-- manage primarily for private boating use and secondarily commercial boating use and fishing, May 1 to September 1.
Subsection C: Bottom of Rapid #6 to Buena Vista boat ramp--provide equally for all types of boating, fishing and other uses.

- Note all subsections on maps. [II-B-1]
- Provide proper signage at beginning and end of each subsection. [II-B-2]
- Redirect users who are not in appropriate subsection. [II-B-3]
- In Subsection B, restrict commercial launches to a maximum of 90 boats:
  Weekends and Holidays, 8:30-11:00 a.m.
  Weekdays 9:00-11:00 a.m. and 1:00-2:00 p.m. [II-B-4]
- Commercial launches in Subsection B will be limited to 6 boats per launch. [II-B-5]
- Private rafts may launch in Subsection B any time between 8:30-11:00 a.m. Saturdays, Sundays and Holidays, and between 9:00-11:00 a.m. and 1:00-2:00 p.m. on weekdays, and 6:00-7:00 p.m. Sunday through Thursday.[6] [II-B-6]
- Allow daily peak capacity use of 310 private and 90 commercial boats in Subsection B. [II-B-7]
- Any allocation caused by a need to reduce the total use of boaters in Subsection B will be 78 percent private boats and 22 percent commercial boats.[7] [II-B-8]
- Private hard boats may launch at any time in Subsection B. [II-B-9]
- In Subsection C, prohibit commercial rafting from August 15 to May 15 and limit private boaters to 40 launches (boats) per day during the same period. [II-B-10]
- The ratio of private to commercial boats in Subsection C will be 200 private to 200 commercial.[8,9] [II-B-11]

Note:[6,7,8]- National Organization for River Sports requested to be documented as opposed to this action.
Note:[9]- Colorado Wildlife Federation requested to be documented as opposed to this and the preceding implementations.

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- Restrict commercial and private raft launches to 9:00-11:00 a.m. and 1:00-2:00 p.m. seven days a week, in Subsection C.[10] [II-B-12]
- Private hard boats may launch at any time in Subsection C. [II-B-13]
- This does not preclude other recreation use. [II-B-14]

Goal: [III.] Work to improve the quality of natural resources, especially in relation to water quality, fisheries, and related and dependent resources.

0 [A.] Use the limits of acceptable change methodology, Code-A-Site camp site inventory and modified Frissell classification scheme along the river corridor on a periodic basis beginning in 1989 to monitor resource conditions and trends. Include environmental, safety, and quality of recreation experience factors.

  - Conduct Code-A-Site inventory of all sites along river during 1989. [III-A-1]
  - Modify Frissell classification scheme with BLM during winter of 1989 (complete by April 1989). [III-A-2]
  - Conduct modified Frissell inventory in conjunction with Code-A-Site inventory. [III-A-3]
  - Incorporate use of photos and video records as part of inventory and where substantial use occurs. [III-A-4]

0 [B.] Manage recreation use along the corridor to protect the existing quality of the resources and recreation opportunities.

  - Inventory river corridor annually. [III-B-1]
  - Review inventory and benchmarks, and make recommendations for management actions to board. [III-B-2]
  - Minimize development of facilities until the level of use warrants further development. [III-B-3]

0 [C.] Cooperate on heavy metal pollution mitigation procedures with all involved agencies/organizations to speedily improve water quality and reduce heavy metal pollution in the Arkansas.

  - Work with agencies/organizations (EPA, USGS, DOW, CTU, Deptartment of Health, etc.) for water quality improvements and to monitor water quality consistent with appropriate statues. [III-C-1]
  - Reestablish fisheries and control heavy metal pollutants. [III-C-2]

Note:[10]. Western River Guides Association, Colorado River Outfitters Association, Boy Scouts of America and the National Organization for River Sports requested to be documented as opposed to this action.

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  - Work with the Environmental Protection Agency to further the Super Fund activities related to the Arkansas River and tributaries. [III-C-3]

0 [D.] Annually work with Division of Wildlife and Colorado Trout Unlimited on specific actions to improve the quality of fishing in this segment.

  - Identify areas where erosion problems can be eliminated. [III-D-1]
  - Identify specific points for stream improvement projects. [III-D-2]
  - Seek volunteer help in completing stream improvement projects. [III-D-3]
  - Develop better fishermen access. [III-D-4]
  - Work to reestablish a quality fishery in Subsection A. [III-D-5]

0 [E.] Develop recreation facilities, especially sanitation facilities, at one public land site in Subsection A, two public land sites in Subsection B, and one public land site in Subsection C by 1992.

  - Develop sanitation facilities at Frog Rock site. [III-E-1]
  - Develop toilet facilities near the Railroad Bridge. [III-E-2]
  - Develop fishermen's access points at areas identified with DOW, BLM and other agencies. [III-E-3]
  - Develop or improve boater access points at Pine Creek rapid, Railroad Bridge, and Frog Rock. [III-E-4]
  - Develop day use parking at Railroad Bridge and Frog Rock, for 30 plus cars. [III-E-5]
  - Establish walk-in camping at one site in Subsection B with a common parking area, remote tent sites, sanitation and water (hand pump) consistent with Class D type camping facilities. [III-E-6]
  - Establish hiking and biking trails along the corridor on lands under the control or authority of the Division of Parks and Outdoor Recreation. [III-E-7]

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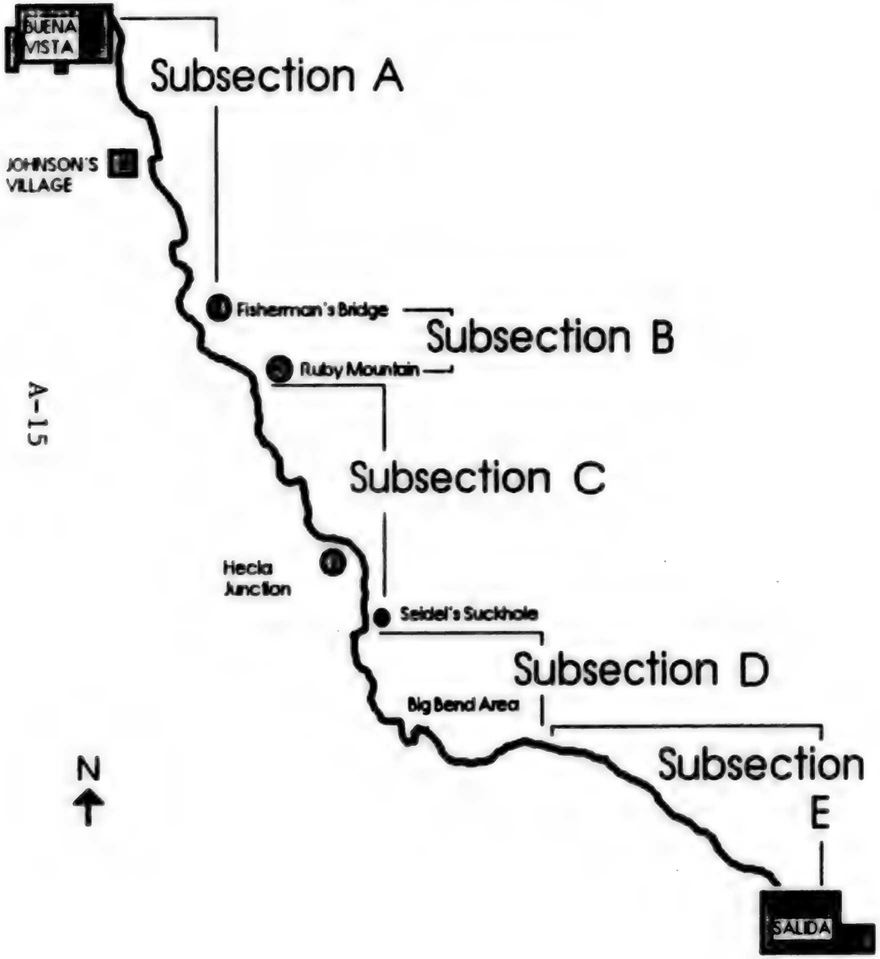
SEGMENT TWO

BUENA VISTA TO SALIDA



Segment #2

Goal: [I.] Maintain the existing "roaded open country" physical and managerial characteristics and the "highway-rural" social character of the Brown's Canyon river corridor, but manage river access points under the "highway-rural" prescription.

O [A.] Ensure that by 1992, resources are managed consistent with the following prescriptions:

River Corridor:

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Physical (Land & Facilities)
Maintain a modified landscape, retain its natural appearance, and provide only rustic toilet facilities to protect the land and provide for visitor safety at boating and fishing access sites.

Social (Visitors)
Allow moderate concentrations or users and frequent, even continual, contact with others, contact is to be expected.

Managerial (Agency/Intergovt. Management)
Visitor management controls and regulations are noticeable. Enforcement personnel are visible. Land uses like grazing are evident. Regular auto, bus, and OHV use occurs only at a few areas along the corridor.

Developed Sites:

Physical (Land & Facilities)
Manage for a substantially modified landscape with both man-made and natural features, providing several specialized facilities for user convenience and to accommodate a greater amount of use for boating, fishing, and other uses.

Social (Visitors)
Allow moderate concentrations of users and frequent, even continual, contact with others. Evidence of other is commonplace.

Managerial (Agency/Intergovt. Mgt.)
Implement several visitor management controls and regulations, including camping fees for all overnight camping users. Law enforcement personnel are moderately visible. Land uses like grazing, mining, and water control structures may occur. Regular highway vehicles and OHV use occurs and is common.

- Investigate during 1989 for consistency with all prescriptions. [I-A-1]
- Review the investigation with the BLM to make recommendations about corrective measures. [I-A-2]

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- Provide results to the organizations represented on the Advisory Committee. [I-A-3]

- Management of the physical, social, and managerial prescriptions will be built around the design capacity. [I-A-4]

- Minimize development of facilities until the level of use warrants further development. [I-A-5]

Goal: [II.] Recognize inherent differences in both resource character and resulting user needs in this segment for the following subsections:

Subsection A: Buena Vista to Fishermans Bridge; NOTE: Recognize the number of residences along this subsection, and the need to protect private property owners rights and quality of life.
Subsection B: Fishermans Bridge to Ruby Mountain; NOTE: Recognize that some private residences are located along here, and that livestock operations are very prevalent.
Subsection C: Ruby Mountain to an undefined point below Seidel's but above the Stone Bridge; NOTE: Recognize that public lands predominant in this area and that it is the premier setting for river recreation opportunities for many users.
Subsection D: Above Stone Bridge to Big Bend (until a site is developed upstream); NOTE: This segment includes opportunities for primarily flat water floating into Salida and quality fishing, but again includes a number of residences and some livestock operations.
Subsection E: Big Bend (until a site is developed upstream) to Salida .

O [A.] Emphasize protection of private landowner and property rights. Protect residents' rights and sensibilities, especially in subsection A, B, D, and E. Include protection of livestock owners' interests.

- Enforce existing statues, with penalties, to protect private property owner rights and sensibilities throughout this segment. [II-A-1]

- Make information about law enforcement procedures and regulations (how to identify violators, how to contact law enforcement personnel, etc.) available to the public. [II-A-2]

- Cooperate fully with the public and private landowners to ensure that regulations are adequately enforced. [II-A-3]

- Identify and protect livestock fording places along the river, as appropriate, notify recreationists of these locations. [II-A-4]

- Protect livestock watering places from conflict with recreationists. [II-A-5]

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- Protect landowner fences along the river, while protecting the safety of boaters, especially with regards to high and low water problems and fences. [II-A-6]

- Post and protect headgates and wingdams from damage by recreationists. [II-A-7]

- Enforce appropriate regulations to halt animal harassment along the river; implement special regulations to address problems with recreationists using firearms. [II-A-8]

- Provide for quiet zones in residential areas along the river (e.g., Subsections A, B, E). [II-A-9]

Goal: [III.] Provide a diversity of recreation opportunities, while recognizing this segment's high level of attraction for commercial boating opportunities, and the potential for user conflicts.

O [A.] Provide primarily for commercial use, secondarily for private boating use, thirdly for fishing use, and finally for other uses.

Provide for use in Subsections A, B, C, and D, under the following guidelines:

- Allow peak daily capacity use on weekends and holidays of 705 boats, 470 commercial and 235 private boats, to occur no more than 5 days each season.(See Minority Reports Section.) [III-A-1]

- Allow peak daily capacity use on weekdays of 560 boats, 370 commercial and 190 private boats, to occur no more than 5 days each season. [III-A-2]

- Exceeding weekday or weekend peak capacity 5 times/season will cause allocation of those periods to occur with commercial boaters allocated at their peak capacity of 470 boats on weekends and 370 boats on weekdays and private boaters allocated at 235 boats on weekends and 190 boats on weekdays. Allocation would occur the following season. [III-A-3]

- Daily commercial launch windows will be as follows: 8:30 a.m. to 11:30 a.m. and 12:30 p.m. to 3:30 p.m. After 3:30 p.m. outfitters can launch up to 15 boats per hour, on the hour, taking no longer than 15 minutes to launch. [III-A-4]

- If allocation is triggered, the ratio of use will be based on a 2/3, 1/3 split (commercial to private). [III-A-5]

- DPOR and BLM will review the allocation system annually after implementation, using a river advisory committee.[11] [III-A-6]

Note:[11]- Colorado Wildlife Federation requested to be documented as opposed to the guigelines for Subsections A,B,C,and D.

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- Acquire a public put-in take-out below Seidels and above or at Big Bend. [III-A-7]

- If the river use reverts to a level below carrying capacity, the allocation will be dropped. [III-A-8]

Provide for use in Subsection E under the following guidelines:

- All boating use in segment E will be restricted to 15 boats (of all types) per hour after August 1, to May 15 pending annual review of boat traffic flowing through Mt. Shavano boat chute.[12] [III-A-9]

- Promote E primarily for fishing use. [III-A-10]

0 [B.] Work to reduce user conflicts through educational programs and management.

- Post area warning boaters that crowded conditions may exist. [III-B-1]

- User surveys will be conducted annually for the first two years then bi-annually (every two years) to measure user perceptions of use conditions, especially crowding. [III-B-2]

- Create scouting opportunities for all users without violating railroad trespass. [III-B-3]

- Limits of acceptable change benchmarks (see Segment 1) will be established for this segment. [III-B-4]

- Use will be restricted at developed sites based on the carrying capacities established. [III-B-5]

0 [C.] Work to enhance boating opportunities through development and improvement of boater access areas, launch sites, and undeveloped campsites, to maintain the character specified in the previous goals and objectives.

Buena Vista

- Complete boat chute. [III-C-1]

- Focus on Buena Vista as a primary site with complete set of facilities. The Buena Vista launch takeout area should be developed as a major parks facility. It can be used as a boater takeout for Segment 1 and a launch area for Segment 2. This facility should have bus parking and private parking, an improved launch pad, sanitation and change rooms, day use, fishing access, picnicking and a traffic turn-around area. [III-C-2]

- Enhance other recreation uses, including development of a nature trail to Cottonwood Creek-Marquard Nature Area. The trail should be designed to include wheelchair access as well as bike and foot traffic. Other hiking and biking trails should be considered. [III-C-3]

- Develop boater education and environmental interpretation for this site. [III-C-4]

Johnson's Village

- Work with county law enforcement officers to correct problems with users changing clothes, etc. in this area. [III-C-5]

Fishermans Bridge

- Improve site by upgrading river access and further developing sanitation facilities, and changing facilities. [III-C-6]

- Seek to acquire an additional site for river access and day use (See the Ruby Mountain discussion). [III-C-7]

Ruby Mountain

- Acquire additional lands for public recreation use in the Ruby Mountain vicinity. [III-C-8]

- After acquiring additional property, develop this site as a major take-out for river trips from Buena Vista and put-in for river trips through to Salida, and as a river trip lunch stop area (for both privates and commercials) while recognizing the area's capacity for other types of recreation use. [III-C-9]

- Upgrade parking, sanitation, changing facilities, fishermen's access, camping, and day use facilities. [III-C-10]

- Provide safe drinking water source (anticipate well with a hand-pump). [III-C-11]

- Upgrade access road. [III-C-12]

- Erect appropriate signage to protect private property rights in area. [III-C-13]

- Public access to the Brown's Canyon Wilderness Study Area and to the public land rock hounding areas will be maintained across public lands. [III-C-14]

- Develop educational and environmental interpretative program for site. [III-C-15]

- Provide Class C Level - basic campground; include water with hand pump, restroom facilities, without a dumpstation and receptacles.[13] [III-C-16]

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[12] Note. National Organization for River Sports and the Colorado Wildlife Federation requested to be documented as opposed to this action.

[13] Note:. Private Campgrounds requested to be documented as opposed to this action.

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Centerville

- Establish a camping site (Level D), with fees, on the west side of the river to provide day use for everyone and river overnight use (accessible by river only) with a reservation system. Also, segregate commercial and private campsites. [III-C-17]

Hecla

- Segregate commercial and private boater ingress and egress points at Hecla. [III-C-18]
- Improve sanitation and changing facilities. [III-C-19]
- Improve day use facilities to 30 tables with grills. [III-C-20]
- Provide drinking water. [III-C-21]
- Improve parking facilities for both private and commercial use. [III-C-22]
- Improve traffic flow by signing and Ranger assistance on heavy use days (weekends and holidays during boating season). [III-C-23]
- Improve access road by widening and providing better signing. [III-C-24]
- Develop nature trail for hiking, including handicapped access. [III-C-25]
- Develop educational/interpretative signing program. [III-C-26]
- Implement drainage control plan at this site. [III-C-27]
- Complete boundary fence, if needed, to protect resource. [III-C-28]

Below Seidel's

- Acquire one, and if feasible two, public site(s) for boating, fishing and day use below Seidel's. [III-C-29]
- Work with county to improve safety problems at Stone Bridge. [III-C-30]
- Complete boat ramp and boater access into Salida. [III-C-31]
- Work with City of Salida to provide parking, sanitation, day use, and change facilities. [III-C-32]

Big Bend

- Develop site as an alternate put-in/take-out for run to Salida and as relief to Hecla. Include restroom facilities and provide limited parking facilities. [III-C-33]

- Promote new DOW fishing easements (Big Bend to Salida). [III-C-34]

Entire Segment

- Allow occasional special boating events to be scheduled on this segment. [III-C-35]
- Inventory and develop day use areas. [III-C-36]

Goal: [IV.] Utilize educational and environmental interpretation programs to help instill a wise river use and public land use ethic for all users regarding river etiquette, outdoor ethics, etc., as well as a greater respect for adjacent private property owners and other user's rights.

O [A.] Initiate an educational/interpretive program to educate recreation users concerning river and land etiquette

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- Include in all brochures a section on River Ethics outlining private-landowner and recreation user rights. [IV-A-1]
- Post access areas reminding users of river ethics. [IV-A-2]
- Post boundary areas between State/BLM land and private property. [IV-A-3]
- Redirect users not in proper areas and take action as needed. [IV-A-4]
- Educate recreationists of proper user conduct through visitor displays at the Ranger station and when necessary along the river corridor. [IV-A-5]

O [B.] Focus on teaching respect for private land owner rights and sensibilities and livestock owners' rights and concerns segment-wide.

- Provide information/instructional signs at all sites. [IV-B-1]
- Develop and make available for distribution, brochures describing regulations, as well as ones designed to enhance visitor's outdoor ethics and user etiquette. [IV-B-2]
- Provide information about private property owners rights and public land boundaries. [IV-B-3]
- Help the user to understand the system-wide nature and interrelatedness of the resource and the people and communities that live here. [IV-B-4]

O [C.] Develop an educational/interpretative program for use at all developed sites, including all scenic highway pull-offs, fishermen access points, and other places where users may congregate, to instruct users about resource use, special or unique aspects of the

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resource, outdoor ethics, and/or user etiquette.

- Provide information about fishing regulations and etiquette at fishermen's access points. [IV-C-1]
- Provide environmental education, informational signing about resource use and special aspects of the area at scenic pull-offs. [IV-C-2]
- Focus on environmental education/protection (low impact use, etc.), outdoor ethics, and user etiquette at river access points. [IV-C-3]
- Provide information signing where appropriate about services, facilities, opportunities, etc., at major sites within this segment. [IV-C-4]

Goals: [V.] In addition to other resource protection goals, monitor and resolve resource deterioration problems specific to this segment, especially those resulting from unmanaged recreation use.

0 [A.] Identify and protect unique natural areas in this segment, especially wetlands.

- Inventory all riverine/riparian areas that warrant special consideration or protection [V-A-1]
- Identify other areas that warrant special protection. [V-A-2]
- Develop regulations protecting areas identified in inventory. [V-A-3]

0 [B.] Resolve resource deterioration problems in Brown's Canyon caused by a proliferation of unmanaged day use/overnight sites along the river.

- Limit river "lunch stops" by groups with more than 6 boats in the party to designated sites. [V-B-1]
- Inventory (Code-A-Site/Frissell classification schemes) all present sites along river. [V-B-2]
- Classify sites as needing significant resource repair - close site when level 3 is passed and take corrective regenerative actions. [V-B-3]
- Patrol river corridor to enforce limits on off-site use. [V-B-4]
- Post educational signs (visible to river users) stipulating that use is restricted. [V-B-5]
- Limit overnight commercial and private use, to designated sites, and segregate these sites. [V-B-6]

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Goal: [VI.] Recognize the unique characteristics and requirements of the Brown's Canyon Wilderness Study Area (WSA), and provide continued public access to that area consistent with BLM's prescriptions.

0 [A.] Implement an interpretive program of brochures and Ranger talks that help encourages preservation of the integrity of the Browns Canyon Wilderness Study Area (WSA) while maintaining public access.

- Utilize and distribute BLM's brochures and information concerning the WSA. [VI-A-1]
- Maintain hiking trail access from Ruby Mountain to WSA. [VI-A-2]
- Initiate an interpretive Ranger program that discusses the unique characteristics of the WSA. [VI-A-3]

0 [B.] All development along the corridor adjacent to the Wilderness Study Area should be consistent with preserving the integrity and special characteristics of that area.

- Lunch stops developed within the WSA will be developed consistent with Wilderness statues and regulations. [VI-B-1]

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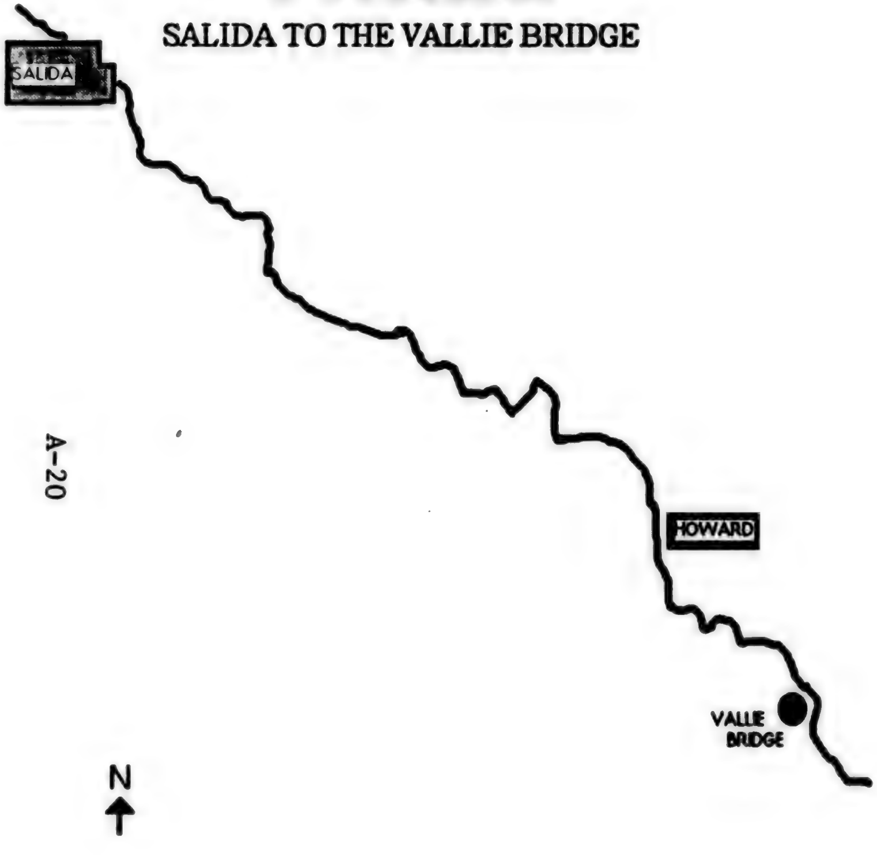
SEGMENT THREE

SALIDA TO THE VALLIE BRIDGE



Segment #3 Defined as that segment from the City of Salida's boat ramp to the Vallie Bridge, i.e. upper Coaldale Bridge.

Goal: [I.] Manage for wildlife values and recreation within the existing "highway-rural" setting prescription.

0 [A.] Ensure that by 1992 resources are managed consistent with the following prescriptions.

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Physical (Land & Facilities)--
Manage for the existing substantially modified landscape having both manmade and natural features, providing several roadside day-use facilities, keeping some fairly primitive and others intensively developed to accommodate greater numbers of visitors and protect the resources for fishing, boating , wildlife viewing, and picnicking activities.

Social (Visitors)--
Allow moderate concentrations of users and frequent, even continual, contact with other users; Evidence of others is commonplace.

Managerial (Agency/Intergovt. Mgt.)--
Implement several visitor management controls and regulations including permits for all commercial boaters and all developed sites (excepting wildlife viewing pullouts). Law enforcement personnel are moderately visible. Land uses like grazing as well as mining and water control structures may be present. Regular highway vehicles and OHV use occurs and is common.

- Investigate during 1989 for consistency with all prescriptions. [I-A-1]
- Review the investigation with the BLM to make recommendations about corrective measures. [I-A-2]
- Provide results to the organizations represented on the Advisory Committee. [I-A-3]

Goal: [II.] Manage recreation for a diversity of recreation opportunities, while maintaining and improving this segment's capabilities as a high quality trout fishery.

0 [A.] Maintain/Improve high quality trout fishing. Work with DOW on specific actions to improve quality of fishing.

- Limit to 300 boats per day from May 15 to August 1. Allocation shall be 50:50 commercial/private. Provide exceptions for special events, such as FIBARK in June. [II-A-1]
- Boating will be restricted to 10 boats per hour August 2 through Labor Day weekend and 50 boats per day after Labor Day weekend to May 15. (See Minority Reports Section.) This includes

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instructional and training use.[14] [II-A-2]

- Redirect boating use as required. [II-A-3]
- Conduct random user counts. [II-A-4]
- Work to restore conditions to warrant Gold Medal designation to the 7 1/2 mile section from the Stockyards Bridge to Badger Creek. [II-A-5]
- Promote new DOW fishing easement north of Vallie Bridge. [II-A-6]
- Identify specific points for stream improvement projects. [II-A-7]
- Seek volunteer help in completing stream improvement projects. [II-A-8]
- Develop better fishermen access. [II-A-9]
- Identify areas where erosion problems can be eliminated. [II-A-10]

Goal: [III.] Recognize this segment's non-boating recreation opportunities, especially for activities such as wildlife viewing.

O [A.] Allow for an increased emphasis on non-boating recreation opportunities through the development of fishing, wildlife viewing, picnicking and other opportunities.

- Provide vehicle pullouts that are identified by the Division of Wildlife and other appropriate agencies, for viewing watchable wildlife. [III-A-1]
- Demphasize river accessible wildlife pullouts to provide further protection for the animals. [III-A-2]
- Develop visitor information brochures or signs explaining non-commercial opportunities. [III-A-3]
- Distribute such information at Ranger Station and at brochure boxes located at Salida boat ramp, Cottonwood Rapid, and wildlife pullout areas. [III-A-4]
- Install educational/informational signs at wildlife pull out areas. [III-A-5]
- Improve/develop hiking and biking trails along this segment. [III-A-6]
- Designate Rincon as a day-use area, accepting that additional use/need may warrant redesignation of area to include overnight camping. [III-A-7]
- Provide sanitation facilities at Salida and Rincon. [III-A-8]

[14] Note:14 - National Organization for River Sports and the Colorado Wildlife Federation requested to be documented as opposed to this and the preceeding implementation.

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- Develop parking areas for 5 to 10 cars to accommodate fisherman at Rincon and new site. [III-A-9]
- Develop/improve parking facilities for 30 cars at Salida. [III-A-10]
- Develop a safer pull off area convenient to Cottonwood Rapid. [III-A-11]
- Develop Class D/Semi-Primitive Campground; special use permit camping for both private and commercial boaters at segregated sites along this segment. [III-A-12]
- Do not allow camping in flood plain areas. [III-A-13]
- Allow occasional special boating events to be scheduled on this segment. [III-A-14]

Goal: [IV.] Work to reduce highway/user safety problems.

O [A.] Reduce highway/user safety problems at the intersections of the highway with various routes to the river spurs and pullouts at Salida East, Rincon, Cottonwood Rapids, and Badger Creek, if feasible, and others as appropriate.

- Develop a cooperative agreement with the Colorado Department of Highway and appropriate counties to begin correcting safety problems. [IV-A-1]
- Improve Highway access at Salida East, Rincon, and Badger Creek areas, if feasible, and others as appropriate. [IV-A-2]
- Post flash flood warning signs above Badger Creek and all other flash flood danger areas. [IV-A-3]
- Elicit recommendations from Highway Department on solutions to safety problems within this segment. [IV-A-4]

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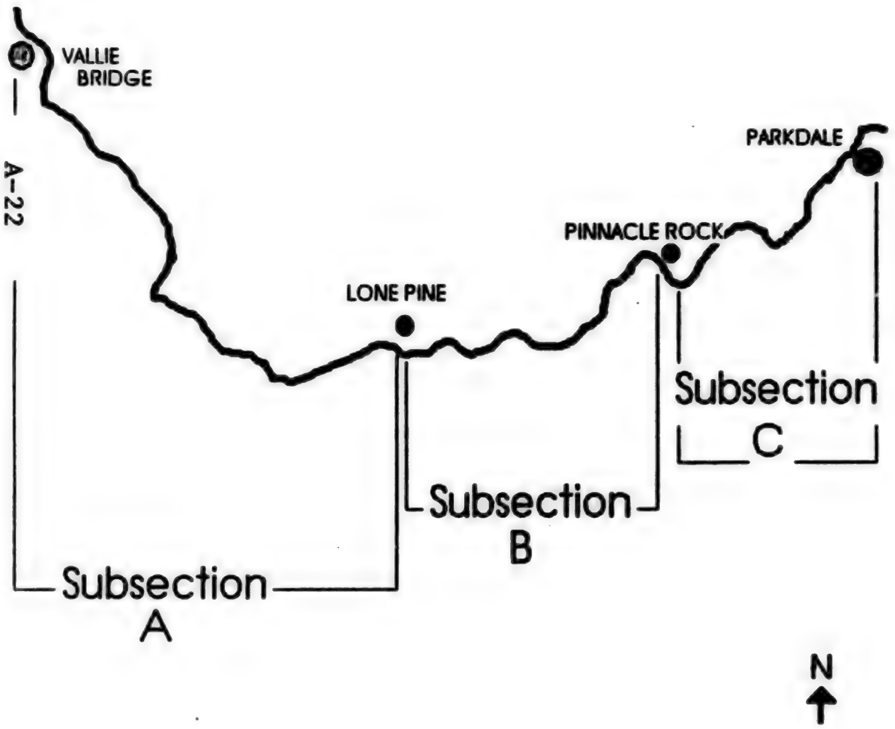
SEGMENT FOUR

VALLIE BRIDGE TO PARKDALE



Segment #4
Vallie Bridge to Parkdale, or a site below Parkdale

Goal: [I.] Maintain the existing "highway-rural" character of the corridor itself, but manage the more intensively used river ingress and egress areas under the "developed urban" prescription.

0 [A.] Ensure that by 1992 resources are managed consistent with the following prescriptions.

River Corridor:

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Physical (Land & Facilities)
Manage for the existing substantially modified landscape having both manmade and natural features, providing several roadside day-use facilities, keeping some fairly primitive and others intensively developed to accommodate greater numbers of visitors and protect the resources for fishing, boating, wildlife viewing, and picnicking activities.

Social (Visitors)
Allow moderate concentrations of users and frequent, even continual contacts. Continual evidence of others is common.

Managerial (Agency/Intergovt. Mgt.)
Several visitor management controls and regulations including permits for all commercial boaters and all developed sites (excepting wildlife viewing pullouts). Law enforcement personnel are moderately visible. Land uses like grazing as well as mining and water control structures may be present. Regular highway vehicles and OHV use occurs and is common.

Developed Sites:

Physical (Land & Facilities)
Manage for roads, manmade facilities, and recreation opportunities dominating the landscape, provide numerous facilities to accommodate more intensive and specialized activities .

Social (Visitors)
Provide for a high concentration of users and large numbers of people within the area and nearby. Evidence of other users being dominant.

Managerial (Agency/Intergovt. Mgt.)
Provide numerous management controls and regulations. Law enforcement personnel are highly visible. Intensive land uses may dominate the landscape. Regular highway vehicle use is allowed and a dominant feature of the landscape.

- Investigate during 1989 for consistency with all prescriptions. [I-A-1]
- Review the investigation with the BLM to make recommendations about corrective measures. [I-A-2]
- Provide results to the organizations represented on the Advisory Committee. [I-A-3]

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Goal: [II.] Accommodate the greatest increase in river recreation use in this segment, consistent with the management prescriptions, and while providing a wide variety of recreation opportunities.

0 [A.] Recognize inherent differences in both resource character and resulting user needs on three distinct Subsections:

Subsection A

- Vallie Bridge to Lone Pine - Provide for primarily fishing use and secondarily boating use. [II-A-1]
- No launches before 9:00 am or after 3 pm, May 15 to August 15. [II-A-2]
- Allow a total peak capacity of 200 boats, 70% commercial and 30% private.[15] [II-A-3]
- Restrict boat launches to 30 boats per day, 9:00 a.m. to 3:00 p.m., August 15 to May 15 on a first-come first-served basis.[15] [II-A-4]

Subsection B

- Lone Pine to Pinnacle Rock - Provide for all activities equally. [II-A-5]
- No launches before 8:30 a.m. or after 4:00 p.m., May 15 to August 15. [II-A-6]
- Allow a total peak capacity of 300 boats, 70% commercial and 30% private. [II-A-7]
- Restrict boat launches to 30 private boats per day, 8:30 a.m. - 4:00 p.m., August 15 to May 15, on a first-come first-served basis.[16] [II-A-8]

Note:[15]- National Organization for River Sports, requested to be documented as opposed to this action and the previous implementations.
Note:[16]- Colorado Wildlife Federation requested to be documented as opposed to this action and the previous implementations.

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Subsection C

- Pinnacle Rock to Parkdale - Provide for primary boater use and secondary fishing use. [II-A-9]
- No launches before 8:30 a.m. or after 5:00 p.m., May 15 to Labor Day. [II-A-10]
- Allow a total peak capacity of 600 boats, 70% commercial and 30% private. [II-A-11]
- Restrict boat launches to 50 commercial and 50 private boats, from 9:00 a.m. to 4:00 p.m., Labor Day to May 15.[17] [II-A-12]

Entire Segment

- Allow occasional special boating events to be scheduled on this segment. [II-A-13]

0 [B.] Maintain and improve, through cooperation with the BLM, DOW, and Colorado Trout Unlimited, and other appropriate agencies, the quality of fishing throughout this segment.

- Educate boaters to use one channel, by signage and brochures, to allow fishermen use along one bank, where feasible. [II-B-1]
- Identify specific points for stream improvement projects that benefit fishing. [II-B-2]
- Seek volunteer help in completing stream improvement projects. [II-B-3]
- Improve fishermen access at; Coaldale, Cottonwood, Cotopaxi, Fern Leaf Gulch, Texas Creek, Pinnacle Rock, Five Points, and Parkdale. [II-B-4]
- Develop parking areas for 5 to 10 cars to accommodate fishermen at areas identified by the Division of Wildlife. [II-B-5]

0 [C.] Allow for an increased emphasis on non-boating recreation opportunities through the development of wildlife viewing, picnicking, and other opportunities.

- Provide vehicle pullouts at Spike Buck and the Pinnacle Rock area for viewing watchable wildlife. [II-C-1]

Note:[17]- Colorado Wildlife Federation, National Organization for River Sports, Colorado Trout Unlimited, requested to be documented as opposed to this action and the preceeding implementations.

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- Develop visitor information brochures and signs explaining non-commercial recreation opportunities. [II-C-2]
- Distribute such information at Ranger Station, wildlife pullout areas, and fishermen access areas. [II-C-3]
- Install educational/informational signs at wildlife pullout areas. [II-C-4]
- Improve picnic facilities at Cotopaxi, Lone Pine, Pinnacle Rock, Five Points, and other sites as identified. [II-C-5]
- Provide sanitation facilities at Cotopaxi, Lone Pine, Pinnacle Rock, Five Points, Parkdale, and other sites as needed. [II-C-6]
- Improve/develop hiking and biking trails along this segment. [II-C-7]
- Develop/improve parking facilities for non-boater recreation. [II-C-8]
- Work with landowners and counties to alleviate safety problems at pedestrian bridges. [II-C-9]

O Work to improve private boating opportunities by improving and [D.] developing new access points where needed.[18]

- Provide or improve private launch facilities at Cotopaxi, Lone Pine, Maytag, and especially at Texas Creek, Five Points and Parkdale. [II-D-1]
- Provide warning signs for boaters about dangerous rapids, and river dangers below Parkdale. [II-D-2]
- Develop portage and/or scouting routes near dangerous rapids such as Maytag, Devil's Hole, 3 Rocks, and Five Points, while enforcing trespass restrictions along the railroad track. [II-D-3]
- Allow occasional special boating events to be scheduled on this segment. [II-D-4]
- Buy or lease a property downstream from BLM's Parkdale site for public access segregated by user group and then convert Parkdale to private boater use only. [II-D-5]

Note:[18]- Local Private Campground Owners requested to be documented as opposed to this action.

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O Work to improve commercial boating opportunities by improving [E.] access/egress points, lunch stops, and improved recreation opportunities along this segment.

- Provide or improve commercial launch and vehicular access facilities at Cotopaxi, Lone Pine, Texas Creek/Maytag, Salt Lick, and Parkdale. [II-E-1]
- Improve sanitation (toilets and trash) facilities at those sites. [II-E-2]
- Provide lunch stop areas for commercial use at those sites. [II-E-3]
- Provide educational and environmental interpretative displays at all sites that aim at improving user ethics and enhancing user understanding of the uniqueness of this area. [II-E-4]
- Provide a Class D river camping area in the Texas Creek Area. [II-E-5]
- Provide Class C camping at Maytag, without dump stations and receptacles. [II-E-6]
- Provide for Class D camping and lunch site (boating use only) below Devils Hole Rapid on north side of river. [II-E-7]
- Increase boat access at Pinnacle Rock with more and better docking sites. Provide more toilets at Pinnacle Rock. [II-E-8]
- Provide more toilets at Salt Lick. [II-E-9]
- Develop parking for 20 vehicles for boat launches and a lunch site at Five Points south. [II-E-10]
- Improve the portage at Three Rocks. [II-E-11]

Goal: Reduce or eliminate significant user safety problems, especially those [III.] with vehicular traffic along the highway.

O Work with the Highway Department, Railroad, or any other [A.] appropriate parties, to improve visitor safety at all developed sites and at all pull-offs and lookout spots. Have signs erected for the 1989 use season.

- Restrict recreation pedestrian traffic all along the highway, except where absolutely no alternative exists. [III-A-1]
- Erect signs at all developed sites and at all pull-offs and lookout spots, warning highway traffic of traffic entering and leaving highway, and of pedestrian traffic. [III-A-2]
- Work with Highway Department to develop pull-off, turn-in lanes, and passing lanes, near all developed sites and at all pull-offs and lookout spots, if at all feasible. [III-A-3]
- Improve scouting of Three Rocks on south side of river. [III-A-4]

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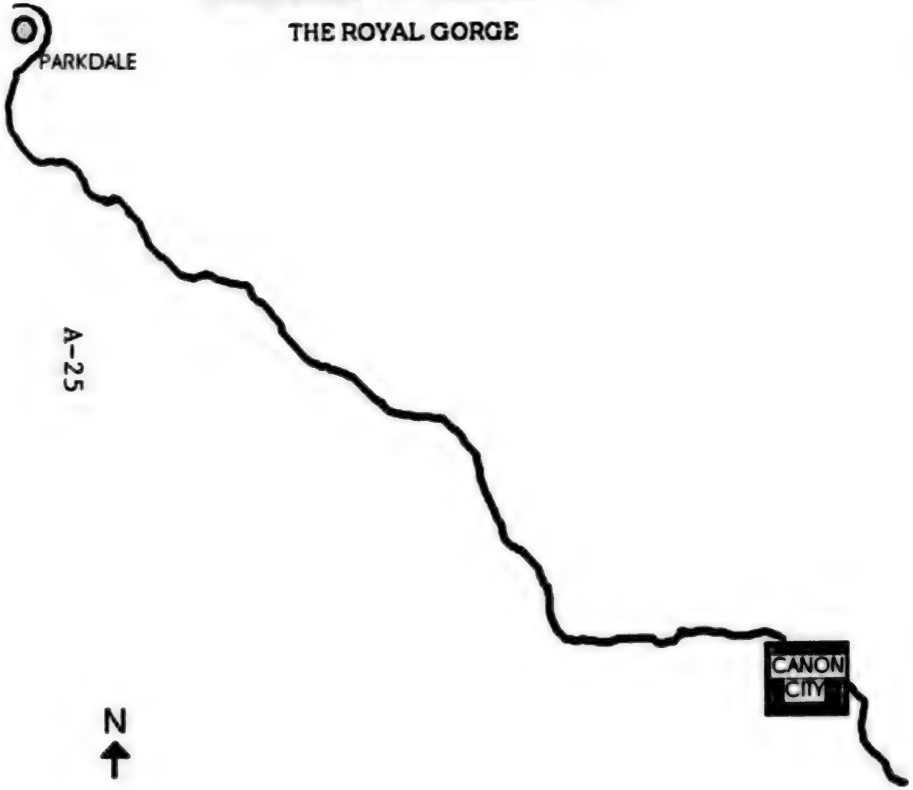
SEGMENT FIVE

PARKDALE TO CANON CITY

THE ROYAL GORGE



Segment #5

Goal: [I.] Maintain the existing "semi-primitive motorized" physical character and provide for "roaded open country" social and managerial character along the river corridor, excepting primary access points which will be managed as "developed-urban".

River Corridor:

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Physical (Land & Facilities)
Maintain a largely undisturbed environment within the Royal Gorge, providing few facilities. Recognize the diverse characteristics of this segment.

Social (Visitors)
Allow moderate on-river use to occur so that contact with others river users is expected but not continual.

Managerial (Agency/Intergovt. Mgt.)
Provide moderate visitor management controls and regulations. Law enforcement personnel are sometimes visible. Motorized use of the area (including trains) is evident, as are other land uses.

Developed Sites: (This applies to ingress and egress points only.)

Physical (Land & Facilities)
Manage for roads, facilities, and recreational opportunities. Provide facilities to accommodate activities.

Social (Visitors)
Provide for a high concentration of users and large numbers of people within the area and nearby.

Managerial (Agency/Intergovt. Mgt.)
Provide necessary management controls and regulations. Law enforcement personnel are moderately visible. Intensive land uses may dominate the landscape. Regular highway vehicle use is allowed and a dominant feature of the landscape.

- Investigate during 1989 for consistency with all prescriptions. [I-1]
- Review the investigation with the BLM to make recommendations about corrective measures. [I-2]
- Provide results to the organizations represented on the Advisory Committee. [I-3]

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Goal: Alert users to safety hazards along this segment and work to eliminate
[II.] manmade hazards.

- Provide warning signs for boaters about the expert nature of the river below Parkdale, warn boater of manmade hazards and the total absence of any take-out before or in the Gorge. (NOTE: This will be done so that State Parks does not accept liability in this or other areas). [II-1]
- Work to remove manmade dangers along the Royal Gorge run. [II-2]
- Work to develop portage/scouting routes near dangerous rapids such as Sunshine Falls, Sledge Hammer, etc. [II-3]

Goal: Maintain this segments outstanding capabilities for kayaking, white
[III.] water canoeing, rafting, and fishing while preventing significant user conflicts from occurring.

O Recognize inherent differences in both resource character and
[A.] resulting user needs.

- Allow 300 total boats, 150 commercial, 150 private, May 1 to Labor Day, no commercial launches past Parkdale Bridge past 1:30 pm. [III-A-1]
- Allow private launches at any time of the day, consistent with allocation systems that may be developed. [III-A-2]
- When total launches exceed the 300 boats per day limit 6 times in one season, cap the amount of total use at that level.[19] [III-A-3]
- Limit commercial launches to 6 boats per launch. [III-A-4]

Goal: Enhance river recreation opportunities in Canon City.
[IV.]

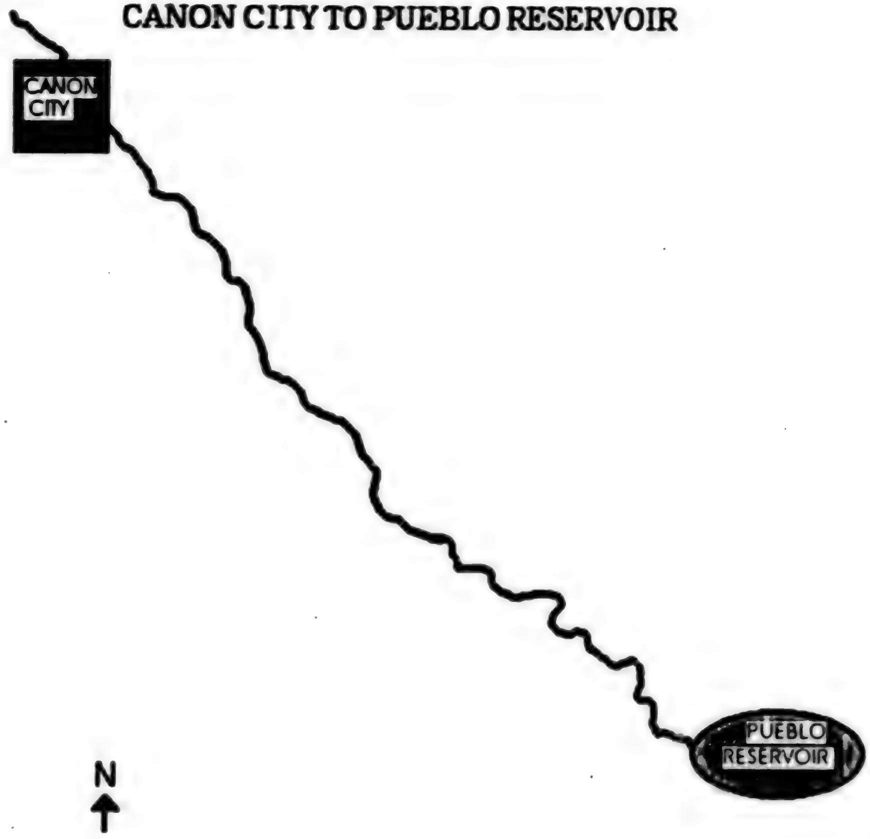
O Work with city organizations to improve/develop river recreation
[A.] opportunities and facilities.

- Work with city to improve/develop boat chute. [IV-A-1]
- Work with city to improve/develop boat ramp and take-out facilities. [IV-A-2]

Note:[19]- Colorado Wildlife Federation requested to be documented as opposed to this action and the previous implementing actions.

SEGMENT
SIX

CANON CITY TO PUEBLO RESERVOIR



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Segment #6

Goal: [I.] Maintain the "highway-rural" physical characteristics of this segment, while recognizing its "roaded open country" social and managerial characteristics.

O [A.] Ensure that by 1992 resources are managed consistent with the following prescriptions.

Physical (Land & Facilities)
Manage for the existing substantially modified landscape having both manmade and natural features, providing several roadside day-use facilities, keeping some fairly primitive and others intensively developed to accommodate greater numbers of visitors and protect the resources for fishing, boating , wildlife viewing, and picnicking activities. Motorized use of the area (including trains) is evident, as are other land uses.

Social (Visitors)
Allow moderate use to occur so that contact with others is expected but not continual, and with noticeable but not common nor dominant evidence of other users.

Managerial (Agency/Intergovt. Mgt.)
Provide some visitor management controls and regulations. Law enforcement personnel are sometimes visible.

- Investigate during 1989 for consistency with all prescriptions. [I-A-1]
- Review the investigation with the BLM to make recommendations about corrective measures. [I-A-2]
- Provide results to the organizations represented on the Advisory Committee. [I-A-3]

Goal: [II.] Provide for multiple-use river recreation use in this segment, consistent with the management prescription, and provide a wide variety of recreation opportunities.

O [A.] Maintain and improve, through cooperation with BLM, DOW, and Colorado Trout Unlimited, the quality of fishing throughout this segment.

- Identify specific points for stream improvement projects. [II-A-1]
- Seek volunteer help in completing stream improvement projects. [II-A-2]
- Improve fishermen access at Florence, Hobson, and other areas designated by the Division of Wildlife. [II-A-3]

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- Develop parking areas for 5 to 10 cars to accommodate fisherman at Florence, Hobson, and other areas designated by the Division of Wildlife. [II-A-4]

O [B.] Work closely with the Advisory Committee and Private Landowners to protect landowner rights while improving/developing the recreation opportunities for this segment.

- Include information in park brochures concerning private lands to educate recreation users. [II-B-1]
- Work to provide fishing access points. [II-B-2]

O [C.] Allow for an increased emphasis on non-boating recreation opportunities through the development of wildlife viewing programs, picnicking and other opportunities.

- Provide a "limited maintenance" site at or near Florence and in the area near Hobson. [II-C-1]
- Develop visitor information brochures and signs explaining recreation opportunities in the area and distribute them as appropriate. [II-C-2]
- Develop educational/interpretative signs at all significant sites, highlighting watchable wildlife and bird life, and environmental education. [II-C- 3]
- Provide picnic facilities at the Florence site. [II-C-4]

O [D.] Allow for recreational boating opportunities.

- Acquire and develop a take-out site above Pueblo Reservoir Wildlife Area with areas for commercial and private boaters. [II-D-1]
- Provide sanitation facilities at Florence, and Hobson. [II- D-2]
- Improve/develop hiking and biking trails along this segment. [II-D-3]
- Develop nature trails at the Hobson site. [II-D-4]
- Provide warning signs (NOTE: This will be done so that State Parks does not accept liability in this or other areas) for boaters about river dangers, e.g., submerged logs, etc. [II-D-5]
- Limit lunch stop areas to the Florence and Hobson sites, unless other arrangements are made. [II-D-6]
- Allow private launches at any time of the day, consistent with allocation systems that may be developed. [II-D-7]

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382

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- Limit commercial launches to between the hours of 9:00 a.m. and 3:00 p.m. each day. [II-D-8]
- Encourage fishing float trips. [II-D-9]
- No limits will be placed on float fishing trips. [II-D-10]
- Explore the possibility of allowing use through CFI Dam. [II-D-11]
- Allow for 100 boats daily, 50 percent commercial, 50 percent private, season long.[20] [II-D-12]
- Work with the city of Florence on development of proposed recreation projects. [II-D-13]

Note:[20]- Colorado Wildlife Federation requested to be documented as opposed to this action.

MINORITY REPORTS

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April 23, 1988

This minority report is for the record of the Division of Parks and Recreation.

After talking to several people who use the river, we feel that using the 705 boats 2/3-1/3 ratio is unsafe and unreasonable for all concerned. We would like to suggest a 80%-20% split (commerical-private).

Allow peak capacity use on weekends and holidays of 587 boats, 470 commerical and 117 private bosts. This is to occur no more than five days each season. Allow peak capacity use on weekdays of 462 boats, 370 commercial and 92 private boats, to occur no more than five days each season. Management of the physical, social and managerial prescription will be built around the design capacity.

Exceeding weekday or weekend peak capacity five times each season will cause allocation of these periods to occur with commercial boats allocated at their peak capacity of 470 boats on weekends and 370 boasts on weekdays. Private boaters will then be allocated at 117 boats on weekends and 92 boats on weekdays. Allocation would then occur the following season.

Daily commercial launch windows will be as follows: 8:30-11:30 a.m. and 12:30-3:30 p.m. After 3:30 p.m. outfitters can launch up to fifteen boats per hour on the hour taking no longer than 15 minutes to launch.

This is the extent of our compromise! As a future goal we would like to see the river managed as not to destroy this natural resource.

Respectfully,

Ruth Pelino
Chaffee County Landowner
Ad. Committee Member

Colorado Wildlife Federation

Board of Directors

For the Record: Arkansas River State Recreation Area Draft Management Plan

The Colorado Wildlife Federation believes that the Arkansas River currently has periods of over use with strong indications that the situation will continue to escalate. It is our understanding that it was due to the concern of user groups who found themselves in conflict with each other that, in part, precipitated the deliberations which produced the draft management plan. We hope, but see little evidence, that these same users have equal concern for the future well being of the resource.

It is our judgement that in its present state, the draft reveals little compromise among the interested groups, but rather, reflects the self-interest of the two boater groups: the commercial rafters and the private boaters. Fishing and wildlife concerns are not only threatened but may be in peril. We feel that it is appropriate to identify the circumstances which allowed this to occur:

(1) Although neither of the managing agencies, BLM or DPOR, had adequate data to indicate current use and/or carrying capacity within the corridor or on the water, the Advisory Committee was required to supply figures whose upper limits would trigger appropriate allocation procedures.

(2) The "user" sub-committee which ultimately determined these figures was made up of 7 boater interests (WRGA, NCRS, CRCA, CWWA, HCR , Fib Ark and the Boy Scouts) and 3 non-boater groups (C3C, TU and CWF). While the commercial and private boaters are generally at "odds" with one another, they were in agreement that there should generally be a 70%-30% split based on the commercial rafters "needs" which would be the 70%.

A viable management plan must reflect acceptable realities and/or projections. The Federation is concerned that the possibility of a boat every 35 seconds in Brown's Canyon or 300 daily through the former (hoped to be re-established) Gold Medal fishing area in Segment #3, or 200 - 600 in Segment #4, with facilities to accommodate these throngs is not only outrageous -it is irresponsible and makes a sham of the "numbers" portion of the plan.

Since little is known of the capacity of the river to withstand the recreational impact and the increasing disruption of the most historic users of the river, the fishermen, CWF requests:
That the DPOR Board reduce the number of boaters in the draft management plan by 50% in each segment and sub-segment,
That no boats, commercial or private, be allowed on the river before 9:00 A.M. or after 4:00 P.M. except those specifically for fishing.
That no boats, commercial or private, be allowed in Segment #3 and #4 before May 15 or after August 15.

1560 Broadway · Denver, Colorado 80202 (303) 830-2557

384

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The Colorado Wildlife Federation strongly supports the concept of the Arkansas River State Recreation Area, but we believe that the "numbers" portion of the draft management plan is no more equitable than was the make-up of the committee which developed it, and, pending future studies, must be viewed with skepticism.

Respectfully,

Marcy Kelly, Representative
Colorado Wildlife Federation

COLORADO TROUT UNLIMITED
1557 Ogden Street Denver, Colorado 80218 (303) 837-1908

May 14, 1988

TO: Colorado Board of Parks and Outdoor Recreation

FROM: Members of the Arkansas River State Park Advisory Committee (see p. 2)

SUBJECT: Minority Report on Segment 3 (Salida to Vallie Bridge)

This minority report, submitted by 6 members of the Advisory Committee, requests that your Board not accept the second implementing action currently included under the second Goal and Objective for Segment 3 in the draft of the Committee's Management Plan. We ask that our proposal for this implementing action be accepted instead.

We have no problem with the Goal and Objective which read:

Goal: Manage recreation for a diversity of recreational opportunities, while maintaining this segment's capabilities as a high quality trout fishery.

Objective: Maintain/Improve high quality trout fishing. Work with DOW on specific actions to improve quality of fishing.

We do not agree with the second implementing action which deals with boating during the off-peak boating season (from August 1 through May 15 of the subsequent year). The Committee adopted this action by a 14 to 6 vote after 2 hours of intensive and sometimes acrimonious debate. It currently reads:

> "Boating will be restricted to 10 boats per hour August 2 through Labor Day weekend and 50 boats per day after Labor Day weekend until May 15."

This fails to preserve this Segment primarily for fishermen during the off-peak boating period as was the intent of the Colorado TROUT UNLIMITED representative on the Committee and is not in keeping with the Goal and Objective. There could be as many as 100 boats per day (10 boats per hour for 10 hours during a day) on this segment during August, perhaps the best fishing month. Also, there are no specific launch times ("windows") for this large quota of boats. A fisherman willing to fish the Arkansas under these regulations is not only faced with heavy boating use but also not knowing when these boats will appear on the river and run through his fishing spot. We believe that many fishermen will become discouraged with Segment 3, which is considered by all to have the best fishing on the Arkansas, and not come to the Valley to fish.

While ideally we would like to restrict this segment completely for fishing from August 1 through May 15, we realize this may not be possible as we have to recognize the rights of other recreational users. We are, however, willing to compromise on an implementing action which we believe will (1) minimize conflicts between fishermen and boaters, and yet (2) provide the fisherman with the best recreational experience possible under the conditions. We suggest that the following implementing actions be substituted in the draft of the Plan forwarded to the BLM:

> "Limit boating on the 14-mile section from Salida's Stockyard's Bridge to Vallie Bridge above Coaldale from August 1 to May 15 to:
>
> 1. Continuation of the Boy Scouts of America boating program through its completion at the end of the first week of August.
> 2. Occasional commercial and private float fishing trips, not to exceed 10 per day, to be set annually by the DPOR based on previous year's use.
> 3. Occasional commercial and private boat launchings, not to exceed 20 per day, with launch times between 9 and 11 AM.
> 4. Instructional hardboat (kayak and canoe) use by the FIBARK Boat Club on Tuesdays and Thursdays, with launch times after 4 PM.

The maximum number of boats per day will be 30 instead of the 100 currently in the plan. The FIBARK Boat Club gets two evenings a week for instructional use -- they have other sections of the Arkansas near Salida if they require additional off-peak use.

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The above proposal is more compatible with the off-peak boating limitations which the Committee placed on the two sections of the Arkansas immediately below Segment 3 (Sub-sections A and B of Segment 4) -- 30 boats per day from August 15 to May 15 with appropriate launch "windows".

Jim Ruch, Director of the Division of Wildlife (DOW), wrote Ron Holliday on January 7, 1988, stating his concerns about the proposed state park and its impact on fishermen. He was particularly concerned about Segment 3, as you will see in the following excerpts from that letter:

> "With anticipated increases in rafting, it is possible that during the months of May through August, rafting could significantly impair fishermen use unless it is properly regulated. At the public meetings, fishermen expressed a similar concern and while this concern was recognized by DPOR, there were no definite recommendations on how it may be resolved. Prior to any final decision, this issue must be further addressed.
>
> Such solutions will require definite rule making authority to be vested in DPOR. For example, one of the better reaches of the Arkansas for fishing is from Salida to Coaldale. This reach should be managed primarily for the fishermen with emphasis on high quality angling for wild brown trout. Fishermen strongly support the need for zoning and we believe rafters will be equally supportive. We suggest the entire corridor be reviewed for designation of uses, in contrast to alloving unlimited boating which as the potential of reducing the quality of experience for both rafters and fishermen alike."
>
> (Note: The underscoring of the two sentences is ours.)

The Committee ignored Mr. Ruch's comments on the Salida to Coaldale reach (Segment 3) in its second implementing action and permitted up to 100 boats per day during August with no "windows".

We urge that the Parks Board protect the fishermen's interests in Segment 3 by overruling the Committee's action for Segment 3 for the off-peak boating periods and adoptino our implementing action shown on page 1 of this letter.

Respectfully yours,

Jim Rutherford
Colorado TROUT UNLIMITED

for Marcy Kelly
Colorado Wildlife Federation *

Frank C. McMurry
Chaffee County Cattleman's Assoc.

Ruth L. Pellino
Chaffee County Riverfront Owners

Colorado Environmental Coalition

Thomas M. Cue
Upper Arkansas Area Council of Governments

* Signed by Sol Torres by permission of Marcy Kelly

(Received over the telephone on 5/19/88 from Pete Makris, Colorado River Outfitters Association. Official copy delayed in the mail)

We would like to file the following minority report under the Areawide Goals. We would like added under the Areawide Goal of "Protect consumptive water users rights and structures while considering water needs of recreationists", the following objective:

O Work to protect the integrity of a free flowing river within the park boundary.

Historically the Arkansas River has been used for a wide variety of recreational users such as: commercial and private rafting, kayaking, conoeing, fishing, wildlife viewing, hiking, and many others. A dam structure on the main stem of the river or increased water diversion would adversely damage the environment, wildlife, and recreational uses of the Arkansas River. A dam structure of increased water diversion would put more pressure on other sections of the river that many people use as a free flowing river.

Colorado Rivers Outfitters Association
Western River Guides Association
Colorado Environmental Coalition
Colorado Wildlife Federation
FibArk

Colorado Trout Unlimited
High Country River Rafters
Local Private Campgrounds
Colorado White Water Association

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Received 5/23/88 RS

colorado white water association

May 16, 1988.

MINORITY REPORT FOR AREA WIDE GOALS

The Colorado White Water Association opposes the identification of private boaters through registration or any others means as an attempt to curb a trespass problem.

The CWWA supports the strict enforcement of all trespass laws. We do not perceive the problem as wide spread as other committee member groups. The Chaffee County Sheriff states that there is not a river-related trespass problem in his area. Although we do not believe that trespassing is wide spread, we do respect the concerns of riverside residents. The proposed posting of signs clearly defining private and BLM lands will assist in eliminating any confusion. Education not regulation is the key to eliminating any problem.

PADDLING SPORT ON COLORADO'S WHITE-WATERWAYS

Received 5/23/88 RS

colorado white water association

May 16, 1988.

MINORITY REPORT FOR AREA WIDE GOALS

The Colorado White Water Association opposes the blanket fee required for any recreational use of the Arkansas River. We support a fee system for the use of developed sites, and believe the current Parks Pass is adequate. We do not believe that the river is a facility, and a fee should not be charged for its use.

PADDLING SPORT ON COLORADO'S WHITE-WATERWAYS

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STATE OF COLORADO

Division of Parks & Outdoor Recreation
1313 Sherman Street, Rm. 618
Denver, Colorado 80203
Phone (303) 866-3437

Roy Romer
Governor
Ron C. Holliday
Director
Colorado Board of Parks
and Outdoor Recreation
Hubert A. Farbes, Jr.
Chairman
Patricia D. Kelly
Vice Chairman
Patricia B. McClearn
Secretary
James M. Robb
Member
Clark L. Scriven
Member

June 6, 1988

L. Mac Berta
Area Manager
Bureau of Land Management
P.O. Box 1470
Canon City, CO 81212

Dear Mac:

I have attached a May 16, 1988, four page letter from Vern Rutherford to the Colorado Board of Parks & Outdoor Recreation. Please consider this as a "minority report" from Trout Unlimited to the draft Arkansas River Management Plan we conveyed to you on May 20.

I have concluded that I was not clear to everyone at the outset of the Advisory Committee process about minority reports - their content, format, purpose and length. A minority report, as I envision it, should contain a very brief position statement about a specific action (goal, objective, implementing action, established priority, etc.). Following the position statement should be the exact wording that the "interest" submitting the report feels should have been approved in the plan. Trout Unlimited's May 14 Minority Report on River Segment 3 closely follows what I had in mind.

Trout Unlimited, and perhaps a few other advisory committee members, feels sensitive about a judgment that has been made not to include the May 16 letter as a "minority report". This was done because it did not fit the above described format and it was felt to be unfair to other Advisory Committee members that had not submitted a similar document. Frankly, my perception is that the May 16 letter is more suited as a "general cover letter" about the planning process.

However, I do not want the entire planning process to be disrupted because of the decision not to "accept" the May 16 letter. I have spoken to Vern Rutherford about allowing a slight departure from the minority report deadline. Vern will send to you and me at the same time a revised minority report(s) following the format outlined in paragraph two by June 24. He will take the issue specific elements from his May 16 memorandum and prepare a revised minority report or reports accordingly. Please accept it or them as a part of the "official" draft plan submittal as well. If, after "reformatting" the draft plan for the public review stage, you print the May 16 letter, please be sure you also print this letter preceeding it.

Via their copy of this letter, I am alerting any other Advisory Committee members that they are also welcome to submit minority reports by June 24, as long as the format I outlined in paragraph two of this letter is followed. They should simultaneously send a copy to you and me. I realize that this may potentially cause a delay in having a complete minority report package. However, I want to do everything within reason to help everyone on the Advisory Committee to put the minority report issue behind them and move on to a critical review of the management plan.

I realize I am risking upsetting the process a little by taking this action. However, my not being clear enough at the outset of the Advisory Committee process about the ability to submit a minority report and its format seems to have diverted attention away from substantive issues in the plan itself. I would much rather see everyone examining the plan closely and preparing their critical comments with an eye towards making it a complete equitable management package. With this in mind , it is imperative to get everyone's attention focused back on the plan.

Again, I take full responsibility for not clarifying this well enough in the beginning. Had I been clearer on it, the chances are good that this flap wouldn't have developed. I apologize to all concerned.

Sincerely,

Ron

Ron Holliday
Director

RH/gs
D:9576B

cc:Parks Board
Arkansas River State Recreation Area Advisory Committee
Leo Gomolchak
Jim Ruch

388

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COLLEGIATE PEAKS ANGLERS
P. O. Box 3067
Buena Vista, Colorado 81211

May 16, 1988

TO: Colorado Board of Parks and Outdoor Recreation

FROM: V.A. Rutherford, Colorado TROUT UNLIMITED Member of the Arkansas River State Park Advisory Committee

Colorado TROUT UNLIMITED wishes to go on record with comments on and objections to certain parts of the Management Plan developed by the Arkansas River State Park Advisory Committee. We ask that these be appended to that Plan as a minority report.

COMMITTEE COMPOSITION

The makeup of the Committee from its inception was biased toward boating as the favored recreation use; fishing, the highest single useage of the river, was not represented in proportion to that use. Initially, there was one fishing representative (me) and five boating groups. Two more boating groups, both minimal users of the river, were added at the 1st meeting of the Committee, further skewing the makeup in favor of boating interests. This 7 to 1 disparity resulted in fishing and environmental issues consistently being rejected and outvoted on the "User's" Sub-Committee. This boating nucleus also managed to swing votes on the full Committee so that decisions were invariably favorable to their interests. DPOR's best intentions in getting representation from as many groups as possible were sabotaged by the boating interests.

We suggest that the Advisory Committee concept be continued past its one-year expected life, but that a smaller and more manageable group of nine members be appointed. The 22 current members concept is unwieldy and environmental interests are not represented equitably.

We would recommend that the Committee makeup of 9 members, shown on the attached Exhibit A, be adopted as soon as possible. These would be voting members; some current interests could still be heard from as ex-officio members.

BOATING NUMBERS

We understand that other Committee members may submit minority reports on the total numbers of boats allowed on various segments of the river and the respective times of the year. Carrying capacity was obviously inflated by both the commercial and private boaters, and actual use could not be documented. The BLM did not help out much on numbers, but their "counts" this Summer may be useful in revising the number data. One of our specific complaints was the tactic used by private boaters who could not substantiate any use data of their own, but "piggy-backed" on whatever number the commercial boaters offered. For example, if the commercial boaters came up with a maximum use of 500 boats per day for a segment, the private boaters would demand one third or 250 launchings making the total use for that segment, 750 boats. This tactic more than anything else is responsible for what we consider to be outlandish figures for the carrying capacity of various segments. Your Board should demand that the private boaters show a use figure as the higher numbers now serve as a precedent for even higher limits and ignore safety and the value of the recreational experience. Further expansion by the boaters during the off-peak boating periods, e.g., August 1 to the following May 15, will elbow fishermen who will then seek other streams in other parts of Colorado and take their money out of the Valley. Solitude and a good recreational experience are what fishermen look for, and they simply won't find it on a state-managed boating park.

INTERFERENCE WITH FISHING BY BOATING

A number of Committee members, specifically the boaters, refused to accept that interference of fishing by boating passing a fisherman was valid. Expert testimony from DOW biologists as to the stress on the wild brown trout in the Arkansas was ignored and even laughed at. Studies show that boaters passing a fisherman on a river can put the fish down for as long as half an hour. DOW biolgists will gather more data and present it as part of the DOW's input to the ultimate plan.

Fishing is generally a solitary pursuit but boaters travel in packs, are noisy and undisciplined, and rafters in particular are unable to effectively control their crafts and barge into fishing areas. I can personally attest to disruption of my fishing by boaters. The emphasis on boating over the past 10 years has forced fishermen to move to areas of limited boating, and we have given up on Brown's Canon, a prime fishing spot on the Arkansas due to the heavy boating useage into August.

BOATERS' ATTITUDES

I had hoped, and Jim Ruch, Director of the Divison of Wildlife, that boating interests would be sympathetic to fishermen's needs in allocating segments of the river for fishing and even giving up boating on some segments during the off-peak periods. This was not the case, and it seemed to us that boaters were determined to protect and increase their share at the expense of fishing. The Executive Director of the Western River Guides Association, Inc. was quoted in a Colorado Springs newspaper as saying to the effect, "We can run everyone off the Arkansas if we so choose, but we won't."

We could also make a similar case for fishing "running everyone off the river"; suppose the DOW were to stock the Arkansas so heavily that fishermen came in droves to the Valley to fish. Certainly during the off-peak boating season, fishermen would be overruning the river and boating would become impossible. I know that won't happen as we would not be so arrogant. However, consider the scenario of Two Forks dam being built and the fine fishing section of the South Platte destroyed. Front Range fishermen would then flock to the Arkansas as it would be the closest comparable stream to replace the South Platte. If that happens, then there will be more and more conflcts between fishermen and boaters. What would be the boating interests' attitudes then?

EX-OFFICIO MEMBERS OF THE COMMITTEE

The BLM, DOW, and other ex-officio members of the Committee were not used effectively by the Committee. It seemed that they were restricted from adding significant direction. While they provided information when requested, their expertise was not incorporated into the Management Plan as well as it could have been. DOW input should have been stronger.

USE ZONES

The idea of use zones was discussed during the public hearings last Winter, with Ron Holliday endorsing them. The Committee did specify some Segments as "primarily fishing", e.g., Segment 3, Sub-section C in Segment 1, Sub-section E in Segment 2, Sub-sections A and B of Segment 4, etc., yet the implementing actions were in conflict with that Goal as the boating interests insisted on and obtained significant useage during the off-peak boating season. Zoning was not used as it should have been. On a number of Segments or Sub-sections, the designations were applied incorrectly to prevent fishing being the primary recreational activity. The boaters had the votes to get what they wanted.

ACQUISITION AND DEVELOPMENT OF FACILITIES FOR FISHING

Here again, the makeup of the Committee will determine the areas favored for acquisition and development -- boaters will get first priority. Some boating needs are obviously high priority but your Board should consider fishermen's needs. The greater number of facilities for boating ingress and egress will serve as the impetus for more rafting and kayaking and a further loss of fishing opportunites.

Acquiring more fishing access will help address this imbalance. Ron Holliday told the Wildlife Commisioners at their recent Salida meeting that two thirds of the Arkansas River is accessed only by or through private property. Fishermen have free access then to only one third of the river plus about 2½ miles of leased property that the DOW has obtained through mitigation for the Frying Pan/Arkansas Project. Your Board can help fishermen out and achieve credibility with us by earmarking some of the $400,000 in capital expeditures authorized for the Park by acquiring riverfront properties for fishing or negotiating leases with ranchers and other property owners.

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There are rumors in the Valley that a placer mining claim north of Granite (in Segment 1A) is for sale for about $5 a front foot of river frontage, perhaps at a total cost of about $35,000 -- this would be an ideal purchase for the Park if still available at the beginning of 1989.

Fishermen need reassured that the DPOR has facilites planned for them -- access or leasing access is one way to do it.

PARK FEES

DPOR personnel have done a good job of spelling out that the surface of the river is to be managed by the DPOR, and that private boaters who use this surface are subject to the park fees (annual or daily) whether they enter the river from public or private access. Private boaters counter by saying that fishermen should also pay these fees. We agree that fishermen using improved facilities such as picnic areas, rest rooms, parking lots, etc., should have a Parks pass or pay the daily fee. We disagree, however, that fishermen stopping along a public highway at a State Highway Department turnoff and climbing or walking down to the river should pay the fee. A fisherman doing this will use only a small section of the river for fishing as compared to a boater traveling miles on the river surface.

Fishermen are already licensed by the DOW. The $11 a year resident fee and the $35 a year non-resident fee currently go to manage fishing on the Arkansas (enforcement of regulations, fisheries biology, stocking of trout, etc.). Charging them an additional fee for incidental use of non-improved sections of the river does not make sense.

Ron Holliday stated at the Buena Vista public meeting that in his opinion, fishermen could continue to have traditional access to the river from public roads and access points. Park rangers would have more profitable things to do than to chase fishermen to collect fees in these spots.

SAFETY

The Advisory Committee, perhaps because of its composition, did not impose any strict safety standards in the Management Plan. Maybe the DPOR has this already in place its other facilities, but it seems to us that water safety, especially in the dangerous sections of the river (the Numbers Rapids, parts of Browns Canon, certainly the Royal Gorge, needs to establish some safety regulations for boaters. One of the private boater members suggested that kayakers should be given and follow some safety rules widely used by the American White Water Association. The heavy boating traffic in some sections presents a safety hazard that needs to be dealt with.

SUMMARY

The Advisory Committee has produced a Management Plan for a state-owned boating park to the detriment of other recreational users. The plan does not currently recognize fishermen's needs. It opens up all segments of the river to boating. In our opinion, there is really nothing in the Plan to limit or control boating than what Mother Nature won't do through dry Winters, low snow-packs, additional water exported out of the Valley, etc.

Your Board needs to overturn items in the Plan that are detrimental to fishing and reassess the favoritism shown the boating community. Please consider the comments in this letter.

Thank you.

Sincerely yours,

V.A. Rutherford

V.A. Rutherford

SUGGESTED MAKEUP OF FUTURE ARKANSAS RIVER ADVISORY COMMITTEE

One member each:

- Fishermen -- Colorado TROUT UNLIMITED
- Commercial Outfitters
- Private Boaters
- Environmental Group
- Riverfront Property Owner
- Cattleman's Association
- Water User Group
- Upper Arkansas Area Council of Governments
- Municipality (Buena Vista, Salida, or Canon City/Florence)

Total 9 members -- major interests represented equitably.

Minority interests (Private Campgrounds, Boy Scouts, FIBARK Boat Club, extra water groups) can be represented ex-officio if necessary.

Riverfront Owners and Cattleman's Association need only one for both counties.

FIBARK Boat Club was given representation far out of proportion to its interests -- strictly a local group in Salida, affiliated with FIBARK Boat Races, Inc., but separate interests.

Boy Scouts had minimal needs that can be represented by ex-officio status in future.

Municipalities need only one voting spokesman -- other towns or cities can speak through that member.

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APPENDIX B

EMPLOYMENT AND LABOR INCOME BY COUNTY

	CHAFFEE			PERCENT OF TOTAL			FREMONT			PERCENT OF TOTAL		
	1975	1980	1986	1975	1980	1986	1975	1980	1986	1975	1980	1986
Agriculture	18	19	27	0.3573	0.31	0.38	29	23	37	0.2945	0.19	0.26
Mining Employment	51	79	45	1.0125	1.31	0.64	173	340	235	1.7570	2.87	1.68
Construction Employment	283	562	588	5.6184	9.33	8.44	430	533	835	4.3672	4.50	5.99
Manufacturing Employment	103	157	180	2.0448	2.60	2.58	1089	1157	1153	11.060	9.76	8.27
Trans & Pub Util Empl	242	194	205	4.8044	3.22	2.94	384	421	374	3.9000	3.55	2.68
Wholesale Trade Employment	73	107	144	1.4492	1.77	2.06	99	130	162	1.0054	1.09	1.16
Retail Trade Employment	1109	1238	1343	22.017	20.5	19.2	1486	1693	1863	15.092	14.2	13.3
Fin, Ins, & Real Est Empl	210	298	413	4.1691	4.94	5.93	508	645	745	5.1594	5.44	5.34
Services Employment	986	1117	1757	19.217	18.5	25.2	1948	2512	3413	19.784	21.2	24.5
Government	1980	2250	2260	39.309	37.3	32.4	3700	4390	5110	37.578	37.0	36.6
TOTAL	5037	6021	6962	100	100	100	9846	11844	13927	100	100	100
TOTAL LABOR INCOME (thousands)	24185	45454	62554				52911	101763	153695			
PERCENTAGE UNEMPLOYMENT	6.36	8.1	10.43				7.95	8.8	10.63			

	LAKE			PERCENT OF TOTAL			ESA			PERCENT OF TOTAL		
	1975	1980	1986	1975	1980	1986	1975	1980	1986	1980	1986	1975
Agriculture	15	15	20	0.2730	0.26	0.81	62	57	84	0.3042	0.24	0.35
Mining Employment	3001	3672	621	54.6230	64.3	25.3	3225	4091	901	15.826	17.3	3.86
Construction Employment	65	109	83	1.1831	1.90	3.39	778	1204	1506	3.8180	5.10	6.45
Manufacturing Employment	20	31	D	0.3640	0.54	D	1212	1345	1333	5.9478	5.70	5.71
Trans & Pub Util Empl	D	D	D	D	D	D	626	615	579	3.0720	2.60	2.48
Wholesale Trade Employment	29	30	D	0.5278	0.52	D	201	267	306	0.9864	1.13	1.31
Retail Trade Employment	502	561	411	9.1372	9.82	16.8	3097	3492	3617	15.198	14.8	15.5
Fin, Ins, & Real Est Empl	101	161	150	1.8383	2.82	6.13	819	1104	1308	4.0192	4.68	5.60
Services Employment	541	D	D	9.8471	0	0	3457	3629	5170	16.965	15.3	22.1
Government	1220	1130	1160	22.2060	19.7	47.4	6900	7770	8530	33.861	32.9	36.5
TOTAL	5494	5709	2445	100	100	100	20377	23574	23334	100	100	100
TOTAL LABOR INCOME (thousands)	60553	123234	50693				137649	270451	266642			
PERCENTAGE UNEMPLOYMENT	7.7	9.06	10.24									

D= NOT DISCLOSED

SOURCE: BUREAU OF ECONOMIC ANALYSIS AND COLORADO STATE DEPARTMENT OF LOCAL AFFAIRS

391

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APPENDIX B
POPULATION TRENDS BY COUNTY

	1980	1990	2000	2010	PERCENT CHANGE
Chaffee	13289	12858	14535	16030	20.62
Fremont	28794	31315	35832	40435	40.42
Lake	8526	5974	4672	3072	-63.9
TOTAL ESA	50609	50147	55039	59537	17.64

SOURCE; COLORADO STATE DEPARTMENT OF LOCAL AFFAIRS, DEMOGRAPHY SECTION

APPENDIX B
ASSESSED VALUATION BY ENTITY

Entity	Thousands	Levy	Thousands	Levy	Thousands	Levy
Chaffee County	29418	16.85	49012	8.54	63362	5.11
Buena Vista	3199	17	6132	12.9	8842	6.625
Salida	7648	23.5	13319	11	17189	8.52
Fremont County	51702	18	81218	16.73	114429	13.25
Canon City	18967	19.5	29866	5	38798	4.49
Lake County	47708	15.53	115116	10.01	81810	12.72
Leadville	3821	32	6645	19.86	9073	16.7

SOURCE: COLORADO DEPARTMENT OF REVENUE

APPENDIX B
HOUSING UNITS BY COUNTY

	CHAFFEE COUNTY		FREMONT COUNTY		LAKE COUNTY	
	1980	1986	1980	1986	1980	1986
Total Housing Units	5800	6274	11530	12549	3761	3891
Vacant Housing Units	1042	1641	1472	1619	761	1533
Housing Vacancy Rate	17.97	26.16	12.77	12.9	20.2	39.4

SOURCE: DIVISION OF LOCAL GOVERNMENT DEMOGRAPHY SECTION, LOCAL GOVERNMENT SURVEY

APPENDIX B
IMPACT OF TRAVEL ON ESA COUNTIES, 1984
U.S. TRAVEL DATA CENTER COUNTY
TRAVEL ECONOMIC IMPACT MODEL (CTEIM)

ESA COUNTIES	TOTAL TRAVEL EXPENDITURES THOUSANDS	TRAVEL GENERATED PAYROLL THOUSANDS	TRAVEL GENERATED EMPLOYMENT JOBS	STATE TAX RECEIPTS THOUSANDS	LOCAL TAX RECEIPTS THOUSANDS
Chaffee	24890	5547	696	898	532
Fremont	21339	4797	598	772	389
Lake	4755	1028	127	157	95
TOTAL ESA	50984	11372	1421	1827	1016

SOURCE: COLORADO TOURISM BOARD

APPENDIX C
CULTURAL AND HISTORIC SITES

5LK31 - Lithic, disturbed, collecting area. No diagnostics, probably not eligible. May have some depth.

5LK32 - Historic, ranch buildings, maybe point of Weston Pass Stage Station. Could be endangered by public. May be eligible.

5LK33 - Lithic, heavily collected, no depth, no diagnostics.

5LK34 - Open lithic, heavily collected, no depth, no diagnostics.

5LK35 - Historic, 1860-1880s, 2 foundation depressions, historic artifact fragments. No evaluation.

5LK37 - Historic, 1860-1890s, house foundation depressions, historic scatter, no evaluation.

5LK60 - Leadville wagon and stage road. Not evaluated. Probably eligible for register.

5LK61 - Colorado Midland Railroad. Probably eligible for register.

5LK93 - No site form.

5LK103 - Poorly recorded lithic scatter with unknown corner-notched point; possible burned bone. Unevaluated.

5LK104 - Poorly recorded lithic sites, unknown corner - notched points and "2 leaf blade bases".

5LK116 - Historic, possible herder's camp, one side notched point. Probably not eligible.

5LK117 - Historic, light scatter of historic and prehistoric debris. No dates. Probably not eligible.

5LK118 - Dense lithic site, some historic glass. No diagnostics. Unevaluated.

5LK131 - Crystal Lake Railroad Bridge, 1880. May qualify for register.

5LK163 - Unidentified lithic scatter heavily collected. Probably not eligible for register.

5LK242 - Charcoal kiln, structures, historic debris dating 1879-1900. Might be eligible for NRHP.

5CF8 - Light lithic scatter. Investigated twice in 9 years. No diagnostics, probably being collected. No indication or eligibility for NRHP.

5CF13 - Lithic scatter, 1 small corner notch point, ground stone reported; landowner indicated possible burial. Further investigation obviously needed.

5CF14 - Light lithic scatter. No diagnostics. Probably not eligible for NRHP.

5CF15 - Small lithic scatter. No diagnostics. Probably not eligible for NRHP.

5CF16 - Lithic site, 10 points collected, no affiliation given; artifacts encounted to depth of 50 cm. No evaluation.

5CF17 - Ceramics (Upper Republican?) and lithics. Has been collected. Needs to be tested for evaluation.

5CF19 - Lithic site, 19 points collected with other tools, debitage to 70 cm depth. Hearths. No evaluation.

5CF24 - Lithic, projectile points, no cultural affiliation. Unevaluated.

5CF25 - Light lithic scatter, no diagnostics, probably heavily collected. No evaluation.

5CF37 - Light lithic scatter; no cultural affiliation; has been collected. Probably not eligible for NRHP.

5CF82 - Large, dense lithic scatter, no diagnostic. Just north of historic dumps of 5CF92. Unevaluated.

5CF80 - Lithic and historic scatter; possible foundation depressions. No diagnostics or tempered affiliation given. Unevaluated.

5CF83 - Light lithic scatter; collected during inventory; no description, no diagnostics. Unevaluated but partially disturbed.

5CF87 - Lithic scatter, three flake concentrations, chert and quartzite, tertiary and find debitage No affiliations. Unevaluated.

5CF88 - Lithic, multi-component, late paleo or early archaic lanceolate concave base points. Third point fragment appears later; two river cobble choppers, metate, scrapers, utilized flaker. May qualify for register.

5CF89 - Lithic, 2 points, no cultural affiliation, resharpening debitage Some disturbance. Unevaluated.

5CF90 - Light lithic scatter, may have washed in, no diagnostics, Probably not eligible.

5CF91 - Kill site, debitage cluster in midst of disarticulated fawn skeleton, boulder metate, probably mid-1800. Site virtually destroyed by highway work. Not eligible.

5CF92 - Historic trash site (dump?) ca. 1885. No evaluation.

5CF94 - Lithic scatter, no depth, 10 cal jasper flakes, 3 biface frass, one black quartz flake. Unevaluated.

5CF99 - Light lithic scatter, no depth, collected, not eligible.

5CF150-155 - Granite?

5CF146 - Same as Lk60.

5CF182 - Lithic site, some historic trash, quarry. Primary - Teritiary reduction. Points, scrapers, drills. No affiliation given. Needs to be re-examined.

5CF183 - Rock shelter, used prehistoric and historic, reduction and reshaping flakes. Unevaluated.

5CF184 - Lithic scatter, quarrying and manufacture, point fragments, no affiliation, unevaluated.

5CF185 - Lithic scatter, large area, five cracked cobbler and metates, manos, projectile points. No affiliation given. May be a major site. No evidence of collecting.

5CF165 - Chalk Creek mining district.

5CF157 - Riverside cemetery.

5CF199 - Lithic scatter, projectile points. No affiliation given. Unevaluated.

5CF308 - Small lithic scatter; debitage of local red, brown and yellow chert? jasper?. No diagnostics, unevaluated.

5CF309/211 - Lithic scatter (309) in yard of abandoned school (211). Chips, flakes, points?, core?, all undescribed. Needs to be re-examined. Unevaluated.

5CF313 - Free Gold Hill; abandoned town.

5CF357 - Apparently a non-site. Two artifacts (undescribed) washing down from a ridge. Not eligible.

5CF354 - Colorado Midland Railroad.

5CF382 - Lithic debitage and historic debris. No structures. Biface reduction and tertiary thinnings. No diagnostics. May have some depth. Trout Creek materials. Unevaluated.

5CF383 - Lithic debitage and historic trash. Thinning and retouch flakes, Trout Creek chert and chalcedony. No diagnostics. May be excavatable. Unevaluated.

5CF391 - Historic Homestead? Utilizing rock shelter and boulders for living structure; railroad tie crib filled with trash. Past 1887. May have been reoccupied in 20th century, may be associated with 399. Could be a good historic research project. Unevaluated.

5CF392 - Light lithic scatter, two rock shelters and historic camp. Light scatter, arrowhead indicator AD 400-1300 period. Trash dates AD 1880-1925. Excavatable.

5CF390 - Extensive lithic scatter. Secondary thinning and retouch. Arrowpoint indicator AD 400-1300. Chert, chalcedony, quartz. Recorders regard as significant site.

5CF389 - Open lithic scatter, secondary and tertiary retouch, Trout Creek materials. No diagnostics, may be excavatable.

5CF394 - I.F. 400 m. linear ditch probably associated with placer mining.

5CF396 - I.F. 3 m. of post 1800 historic trash.

5CF399 - I.F. placer pit, post 1860.

5CF406 - Downtown Salida Historic District. National Register.

5CF412 - Granite Bridge, 1911, earliest datable Pratt pony truss bridge in State. Not NRHP.

5CF414 - Browns Canyon Bridge, 1908, most architecturally sophisticated concrete slab-and-girden bridge in the State. NRHP.

5CF416 - U.S. Highway 24 bridge across Arkansas River. Riveted Pratt deck truss with skewed configuration and long span. Not NRTR.

5CF415 - Four Mile bridge over Arkansas, 1909. Only remaining truss leg bedstead in Colorado.

5CF418 - Open lithic, historic. Dense scatter over large area, no diagnostics. Unnamed railroad bed from railroad gulch crosses site. Undescribed log cabin at edge of site. Could well be a significant site.

5CF420 - Large lithic scatter, 300 m. x 200 m., no diagnostics, bone, Trout Creek chert. Excavated.

5FN47 - Cave, burned game, fill, some vandalism. Excavatable.

5FN48 - Lithic scatter; local jasper; retouch and thin chips. Recent observations by BLM personnel indicate site extends south of Bridge and maybe continuous with 49.

5FN49 - Probably same as 48.

5FN50 - Lithic scatter and historic. Debitage, cores, utilized flakes of local jaspers. Cobble house foundation. No diagnostics. Unevaluated.

5FN51 - Light lithic scatter, historic mine and camp pre-1885. Jasper debitase and utilized glass. No pre-historic diagnostics. Needs to be re-examined.

5FN39 - Lithic, 1.5 acres, ground stone. Recorded 19132. Unevaluated. Rename site.

5FN40 - Lithic scatter; hearths, ground stone, debitage Rename site. Unevaluated.

5FN65 - Wide lithic scatter. Red and yellow chert; no diagnostics. Just west of store at Parkdale. Unevaluated.

5FN68 - Ten tipi rings, debitase, cordmarked shards, ground stone. Unevaluated.

5FN71 - Lithic scatter, manufacturing site, artifacts, not described. Unevaluated.

5FN74 - Small rock shelter, hearth, burned bone, charcoal at 57 cm. No temporal affiliation Unevaluated.

5FN75 - Two small rock shelters. Carbon on roof. No material culture. Excavatable.

5FN76 - Debitage, hearths, stone circle. Points and ceramic undescribed; temp/cul. affiliation unknown. Probably excavatable.

5FN77 - Lithic scatter, ground stone, utilized flakes, paleo point base. Excavatable.

5FN78 - Rock shelter, carbon on roof, burned bone. Excavatable.

5FN79 - Overhang, burned bone, carbon on roof. Unevaluated.

5FN80 - Two small rock shelters, carbon on roof, burned bone. Unevaluated.

5FN81 - Light lithic scatter 4 m., Tipi ring, artifacts collected, not described. Unevaluated.

5FN82 - Excavated cave - destroyed.

5FN83 - Totally "potted-out" site.

5FN104 - Fourth Street Bridge, Canon City. NRTR.

5FN105 - Howard bridge.

5FN110 - Historic charcoal kiln.

5FN112 - Cotopaxi.

5FN113 - Five DeReemer Forts. Probably eligible for NRHP.

5FN788 - I.F. D&RG ceramics.

5FN789 - DeReemer Fort #3. Probably eligible for NRHP.

5FN787 - Historic, four structures utility soulders and logs, trash. Unevaluated.

5FN805 - Historic, rectory rock structure resembling an oven. No data.

5FN806 - Historic, poorly described 19x22 foot "rock structure", four foot high.

5FN807 - Historic, rock structure resembling 805. No data.

5FN808 - Historic, four "rock structures". Poorly described. No data.

5FN809 - Historic, rock structure 18'x19'x4' high. No data.

5FN810 - Historic, ten circular brick structures, collapsed. Probably ovens. No data.

5FN813 - Historic, two sandstone foundations. No data.

5FN853, 854, 855 - No site forms.

APPENDIX D
REALTY AUTHORIZATIONS

Segment Number 1 - Leadville to Buena Vista

	Realty Authorizations	Purpose/Effect/Restrictions	Holder
1.	Withdrawal Power Site Reserve 92 EO 7/2/1910	Limits disposal of public land [may take action subject to Section 24 of the Federal Power Act with concurrence of BLM and Federal Energy Regulatory Commission (FERC)]	BLM & FERC Washington, D.C.
2.	Railroad Right-of-Way 100' C-094000	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Denver & Rio Grande Railroad
3.	Railroad Right-of-Way 100' C-093801	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Denver & Rio Grande Western/ Union Pacific Railroad Co.
4.	Powerline Right-of-Way 10' C-36849	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Sangre De Cristo Elec Assn. Box 2103 Buena Vista, CO 81211
5.	Powerline Right-of-Way 10' C-35443	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Sangre De Cristo Elec Assn.
6.	Buried Pipeline Right-of-Way 50' C-0122222	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Cities of Aurora and Colorado Springs
7.	Ditch for Clear Creek Reservoir L-0480	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Otero Irrigation District
8.	Withdrawal Gunnison Arkansas Reclamation Project SO 6/3/1946	Closes public land to mining and disposal except by R&PP with concurrence of BOR.	Bureau of Rec (BOR) Albuquerque, N.M.
9.	Reservoir Site 50 SO 8/18/1894	Closes public land to mining, limits disposal of public land. [may take action subject to Section 24 of the Federal Power Act with concurrence of BLM & FERC].	BLM & FERC Washington, D.C.

10.	State Highway Right-of-Way (Federal Aid Highway Approp Act 8/27/19) variable C-28178	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Colorado Department of Highways
11.	Powerline Right-of-Way 50' C-0122222	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Cities of Aurora and Colorado Springs
12.	BLM Order Protective Withdrawal Application C-24224, FLPMA Sect. 204	Withdrawal in effect until decision is issued. Closes public land to disposal and protect primitive recreational values.	BLM
13.	Fence Right-of-Way C-0122544	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	U.S. Forest Service Pike & San Isabel NF Pueblo, CO
14.	Classification Power Site 32 SO 4/29/1922	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and FERC].	BLM & FERC Washington, D.C.
15.	Access Road Right-of-Way 10' & 7.5' C-35471	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Martin Schwalbaum Box 148 Rutherford, NJ 07070
16.	Powerline Right-of-Way 10' C-36849	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Sangre De Cristo Elec Assn.
17.	Powerline Right-of-Way 5' C-38702	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Mountain States T&T 1005 17th St. Denver, CO 80202
18.	RS2477 State Highway Right-of-Way Variable	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	CO Dept of Highways
19.	RS2477 Lake County Road Right-of-Way 30'	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Lake County 505 Harrison Leadville, CO 80461
20.	Chaffee County Road Right-of-Way 30' C-42318	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Chaffee County County Court Salida, CO 81201

21.	Withdrawal Reservoir Site 51 SO 8/18/1894	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and FERC].	BLM & FERC Washington, D.C.
22.	State Highway Right-of-Way variable C-23564	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	CO Dept of Highways

Segment Number 2 - Buena Vista to Salida

	Realty Authorizations	Purpose/Effect/Restrictions	Holder
1.	Withdrawal Power Site Reserve 92 EO 7/2/1910	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and Federal Energy Regulatory Commission (FERC)]	BLM & FERC Washington, D.C.
2.	Railroad Right-of-Way 100' C-0122118	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Denver, South Park, & Pacific Railroad Co.
3.	Railroad Right-of-Way 100' C-094000	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Denver & Rio Grande Railroad Co.
4.	Railroad Right-of-Way 100' C-093801	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Denver & Rio Grande Western/ Union Pacific Railroad Co.
5.	Road Right-of-Way 15' C-25762	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	H.H. Newsom Box 244 Buena Vista, CO 81211
6.	Buried Powerline Right-of- Way 15' C-25762	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Sangre de Cristo Electric Assn.
7.	State Highway Right-of-Way 100' C-4506	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Colorado Dept. of Highways
8.	RS2477 Chaffee County Road Rights-of-Way 30' C-42318	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Chaffee County Box 689 Salida, CO 81201

9.	BLM Order Protective Withdrawal Application C-24224, FLPMA Sect. 204	Withdrawal in effect until decision is issued. Closes public land to disposal and protect primitive recreational values.	BLM
10.	Withdrawal Power Site Classification 32 SO 4/29/1922	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and FERC].	BLM & FERC Washington, D.C.
11.	State Highway Right-of-Way D-051639	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Colorado Dept. of Highways
12.	State Highway Right-of-Way 70' C-1653	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Colorado Dept. of Highways

Segment Number 3 - Salida to Vallie Bridge

	Realty Authorizations	Purpose/Effect/Restrictions	Holder
1.	Withdrawal Power Site Reserve 92 EO 7/2/1910	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and Federal Energy Regulatory Commission (FERC)]	BLM & FERC
2.	Railroad Right-of-Way 100' C-093736	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Denver & Rio Grande Railroad Company
3.	Powerline Right-of-Way 10' C-022171	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Sangre de Cristo Electric Assn. Buena Vista, CO 81211
4.	Powerline Right-of-Way 5' C-25602	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Public Service Co. of Colorado Box 840 Denver, CO 80202
5.	Buried Telephone Right-of-Way 5' C-24845	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Mountain Bell 1005 17th St. 1130-2 Denver, CO 80202
6.	State Highway Right-of-Way D-054071	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Colorado Dept. of Highways

7.	Telephone Right-of-Way D-043931	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Mountain States T&T
8.	Powerline Right-of-Way 25' C-18025	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Sangre de Cristo Elec. Assn.
9.	Telephone Right-of-Way D-043931	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Mountain Bell
10.	Powerline Right-of-Way 62.5' C-0128242	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Department of Energy WAPA, Box 11606 Salt Lake City, UT 84147
11.	State Highway Right-of-Way D-046246	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Colorado Dept of Highways
12.	Telephone Right-of-Way C-35424	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Eagle Telecomm, Inc Box 470 Eagle, CO 81631
13.	Public Water Reserve 107 C-17097 (Interpreted) Lot 3 Sec 8 36.97 acres Lot 16 Sec 27 37.17 acres	Limits disposal. No interference allowed and action taken only with BLM concurrence.	BLM
14.	Power Site Classification 32 SO 4/29/1922	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and FERC].	BLM & FERC Washington, D.C.
15.	RS4277 Fremont County Roads Rights-of-Way 30' C-44142	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Fremont County Box 1007 Canon City, CO 81212
16.	Powerline Right-of-Way 5' C-40751	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Eagle Telecomm Inc.
17.	BLM Order Classified Multiple Use Management C-2295	Closes public land to agricultural entry & public sales.	BLM

a) East Salida Campground 80 acres C-083981	Closed to mining, disposal (except under the Recreation and Public Purposes Act), and agricultural entry.	BLM
b) Coaldale 40 acres C-0111199	Closed to mining, disposal (except under the Recreation and Public Purposes Act), and agricultural entry.	BLM
c) Cotopaxi 80 acres C-083480	Closed to mining, disposal (except under the Recreation and Public Purposes Act), agricultural entry and exchange.	BLM
d) Swissvale 40 acres C-083414	Closed to mining, disposal (except under the Recreation and Public Purposes Act), agricultural entry and exchange.	BLM
e) Rincon 660 acres C-083428	Closed to mining, disposal (except under the Recreation and Public Purposes Act), agricultural entry and exchange.	

Segment Number 4 - Vallie Bridge to Parkdale

	Realty Authorizations	Purpose/Effect/Restrictions	Holder
1.	Withdrawal Power Site Reserve 92 EO 7/2/1910	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and Federal Energy Regulatory Commission (FERC)]	BLM & FERC Washington, D.C.
2.	Telephone Right-of-Way 5' C-40751	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Eagle Telecmm, Inc.
3.	State Highway Right-of-Way 50' P-056862	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Colorado Dept. of Transportation
4.	Powerline Right-of-Way 10' C-022171	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Sangre de Cristo Elec. Assn.
5.	Railroad Right-of-Way 100' D-093736	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Denver & Rio Grande Railroad Co.

6.	Telephone Right-of-Way 200' D-043931	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Mountain States T&T
7.	Power Site Classification 32 SO 4/29/1922	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and (FERC)].	BLM & FERC Washington, D.C.
8.	Non-Mineral/FLPMA Sec. 302 Lease C-31165	Residential & Business interest in 1.4 acres from the highway right-of-way to approximately 5 feet of the river high water line. Lessee owns improvements. Lease term expires May 1, 1995.	David Thompson Box 397 Cotopaxi, CO 81223
9.	BLM Order Classified Multiple Use Management C-2295	Closes public land to agricultural entry and public sale.	BLM
	a) Pinnacle Rock 40 acres C-083393	Closed to mining, disposal (except under the Recreation and Public Purposes Act), agricultural entry and exchange.	BLM
	b) Bakers Gulch 160 acres C-083440	Closed to mining, disposal (except under the Recreation and Public Purposed Act), agricultural entry and exchange.	BLM
	c) Lone Pine 33 acres C-0127886	Closed to mining, disposal (except under the Recreation and Public Purposes Act), agricultural entry and exchange.	BLM
10.	GLO Power Site Reserve 186 Interpreted 320	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and FERC].	BLM & FERC Washington, D.C.
11.	GLO Power Site Reserve 92 Interpreted 323	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and FERC].	BLM & FERC Washington, D.C.
12.	Withdrawal Arkansas Valley Reclamation Project SO 4/25/1941	Grants possessory right. Concurrence required prior to granting any other possessory rights. Closes public land to mining.	Bureau of Rec.

13.	Road Right-of-Way 10' C-29360	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Larry Fontaine 765 Bayfield Dr. Colo. Spgs. CO 80906
14.	44LD513 Easement Reservation 50' C-15910	A prior federal right is established. Any action must be subject to this road easement.	BLM Road Reservation
15.	Powerline Right-of-Way 10' C-36850	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Sangre de Cristo Elec. Assn.
16.	Withdrawal Power Site Reserve 186 EO 5/16/1911	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and FERC].	BLM & FERC Washington, D.C.
17.	State Highway Right-of-Way P-058297	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Colorado Department of Highways
18.	Withdrawal Protection of Recreational & Archaeologic Values Public Land Order 3843	Designation of public land for specific use.	BLM

Segment Number 5 - Parkdale to Canon City

	Realty Authorizations	Purpose/Effect/Restrictions	Holder
1.	Withdrawal Power Site Reserve 92 EO 7/2/1910	Limits disposal of public land [may take action subject to Section 24 of the Federal Power with concurrence of BLM and Federal Energy Regulatory Commission (FERC)]	BLM & FERC Washington, D.C.
2.	Railroad Right-of-Way 100' C-093736	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Denver & Rio Grande Railroad
3.	Fremont County Road Right-of-Way 30' C-44142	Authorizes use of public land for specific purpose, no interference allowed, other authorizations made subject to this prior right.	Fremont County

Segment Number 6 - Canon City to Pueblo

Realty Authorizations	Purpose/Effect/Restrictions	Holder

No public land administered by BLM.

APPENDIX E
ENCUMBRANCES ON PROPOSED R&PP SITES

TABLE: Key Sites Proposed for Lease Under the "Recreation and Public Purposes Act"

Site	Realty Authorizations
Railroad Bridge (65 ac. in Segment 1)	Withdrawal Power Site Reserve 92 EO 7/2/1910 Classification Power Site 32 SO 4/29/1922 Chaffee County Road Right-of-Way C-42318
Fishermans Bridge (40 ac. in Segment 2)	Withdrawal Power Site Reserve 92 EO 7/2/1910 Road Right-of-Way C-25762 Buried Powerline Right-of-Way C-25519 Chaffee County Road Right-of-Way C-42318
Ruby Mountain (40 ac. in Segment 2)	Withdrawal Power Site Reserve 92 EO 7/2/1910 BLM Order Protective Withdrawal Application - C-24224 Chaffee County Road Right-of-Way C-42318
Hecla Junction (90 ac. in Segment 2)	Withdrawal Power Site Reserve 92 EO 7/2/1910 BLM Order Protective Withdrawal Application - C-24224 Chaffee County Road Right-of-Way C-42318
Rincon (8 ac. in Segment 3)	Withdrawal Power Site Reserve 92 EO 7/2/1910 Powerline Right-of-Way C-022171 Buried Telephone Right-of-Way C-24845 Telephone Right-of-Way C-35424 State Highway Right-of-Way D-046246
Pinnacle Rock (11 ac. in Segment 4)	Withdrawal Power Site Reserve 92 EO 7/2/1910 BLM Order Classification Multiple Use Management - C-2295 (survey problem) State Highway Right-of-Way D-043931

TABLE: Key Sites Proposed for Lease Under the "Recreation and Public Purposes Act"

Site	Realty Authorizations
Five Points (40 ac. in Segment 4)	Withdrawal Power Site Reserve 92 EO 7/2/1910 Telephone Right-of-Way D-043931 Withdrawal Protection of Recreation and Archaeological Values PLO 3843 State Highway Right-of-Way P-058297
Parkdale (2 ac. in Segment 4)	Withdrawal Power Site Reserve 92 EO 7/2/1910 State Highway Right-of-Way P-058297

APPENDIX F
MINING CLAIMS

LOCATION	RECREATION I.D.	MINING CLAIM
	Segment 1	
T. 12 S., R. 79 W., 6th P.M.		
Sec. 8: E½	Clear Creek Reservoir	CMC Nos. 203595 203596, 203597 203598
Sec. 9: W½	Clear Creek Reservoir	CMC Nos. 203595, 203598
Sec. 34: NE¼	Above Rapid No. 6	CMC Nos. 190718, 197512, 197513, 197514
Sec. 35: SW¼	Access	CMC Nos. 59279 through 59285, 59288
T. 13 S., R. 79 W., 6th P.M.		
Sec. 2: NW¼	Access	CMC Nos. 59283, 197539, 199751
Sec. 2: SE¼	Access	CMC Nos. 197501, 197544
Sec. 12: NW¼	Access	CMC Nos. 197499, 197540
Sec. 12: SE¼	Access	CMC Nos. 197500
Sec. 13: E½	Railroad Bridge	CMC Nos. 197487, 197488, 197489, 197490, 197495
Sec. 24: SE¼	Access	CMC Nos. 197541
Sec. 25: NE¼	Access	CMC Nos. 197543 197817, 218272, 218273, 222918
T. 13 S., R. 78 W., 6th P.M.		
Sec. 30: SW¼	Frog Rock Area	CMC Nos. 218426, 222919
Sec. 31: E½	Frog Rock Area	CMC Nos. 218426, 222919
Sec. 32: SW¼	Access	CMC Nos. 218428, 220097, 222919

Segment 2

T. 15 S., R. 78 W., 6th P.M.		
Sec. 3: SE¼	Fisherman's Bridge	None
Sec. 10: NE¼	Access	None
Sec. 12: SW¼	Ruby Mountain	CMC No. 227011
Sec. 25: E½	Pinball Rapid	None
T. 51 N., R. 8 E., NMPM		
Sec. 23: SW¼	Hecla Junction	CMC No. 1503, 1505, 1507, 1509, 1511
Sec. 26: NW¼	Hecla Junction	None
Sec. 34: NE¼	Lower Seidel's	CMC No. 193536, 193537
T. 50 N., R. 8 E., NMPM		
Sec. 2: NW¼	Upper Stone Bridge	None

Segment 3

T. 49 N., R. 9 E., NMPM		
Sec. 10: SW¼	Salida East	CMC Nos. 198097, 198098, 198099, 198100, 198103
T. 49 N., R. 10 E., NMPM		
Sec. 28: NE¼	Rincon	None

Segment 4

T. 48 N., R. 12 E., NMPM		
Sec. 28: NW¼	Lone Pine	None
Sec. 29: NE¼	Lone Pine	None
Sec. 22: SW¼	Fern Leaf Gulch	None
T. 19 S., R. 73 W., 6th P.M.		
Sec. 5: SE¼	Maytag	[illegible]
T. 18 S., R. 73 W., 6th P.M.		
Sec.	Devils Hole	
Sec. 35: N½	Pinnacle Rock	None
Sec. 26: S½	Three Rocks	None
Sec. 25: E½	Five Points	None

T. 18 S., R. 72 W., 6th P.M.		
Sec. 30: W½	Five Points	None
Sec. 30: N½	Lower Floodplain	None
Sec. 29: NE¼	Parkdale	None
T. 18 S., R. 71 W., 6th P.M.		
Sec. 18: All	Parkdale South	CMC Nos. 203684, 205798, 210058, 210061, 221828

APPENDIX G

RECREATION USERS/PREFERENCES

1. Visitor Characteristics

Where Do Visitors Come From?

	Segment 2		Segment 4	
	1981	1987	1981	1987
Colorado	61.9%	61.4%	59.7%	57.8%
- Denver metro area		(22.0)		(25.0)
- Colorado Spgs./Pueblo		(8.3)		(11.3)
- Boulder		(7.8)		(2.5)
- Howard/Cotopaxi		--		(6.3)
- Buena Vista/Salida		(5.3)		(1.3)
- Glenwd. Spgs./Vail area		(4.5)		--
- Dillon/Idaho Spgs. area		(4.5)		--
- Fort Clns./Longmnt. area		(4.5)		--
- Canon City		(2.3)		(3.8)
- Castle Rock/Monument area		(1.5)		(3.8)
- (others)		(.8)		(3.8)
Other States	38.1%	38.6%	40.3%	42.2%
- Texas		(3.0)		(5.7)
- Kansas		(5.3)		--
- California		(3.8)		--
- Wisconsin		(3.8)		--
- Nebraska		--		(3.8)
- Missouri		(2.3)		(3.8)
- Connecticut		(2.3)		(2.5)
- Indiana		(2.3)		--
- Minnesota		(2.3)		(2.5)
- Iowa		(2.3)		(2.5)
- Illinois		(1.5)		(2.5)
- (Others)		(17.6)		(20.0)

How Much Previous River Trip Experience Do People Have On The Arkansas River?

	Segment 2		Segment 4	
	1981	1987	1981	1987
Once-this trip	71.8%	53.3%	68.7%	50.0%
2-5 times	15.0	21.6	17.9	25.2
6-10 times	2.9	12.6	3.2	10.0
>10 times	10.2	11.9	10.1	15.0

How Much Previous River Trip Experience Do Users Have On Any River?

	Segment 2	Segment 4
1st trip this yr.	30.4%	12.5%
last year	7.6	10.1
2-5 yrs. ago	25.1	33.8
6-10 yrs. ago	20.7	23.8
>10 yrs. ago	16.2	20.0

How Many Float Trips Have Users Made on Rivers Other Than The Arkansas?

	Segment 2		Segment 4	
	1981	1987	1981	1987
0	38.9%	36.6%	39.8%	30.0%
1-5	47.5	41.0	49.2	37.4
6-10	11.1	3.0	8.1	7.5
>10	2.5	20.0	2.8	25.0

2. Trip Characteristics

Where Did Boaters Spend Their Nights In The Arkansas River Valley?

		Percent Stayed this Number of Nights								Percent Stayed No Nights
		1	2	3	4	5	6-10	>10	Total	
Total Boaters/	Seg.#2	20.7	18.5	5.2	1.5	0	2.2	7.4	55.5%	44.4%
	Seg.#4	21.1	21.1	6.6	0	0	2.6	11.8	63.2	36.8
Camped Public/	Seg.#2	12.6	12.6	1.5	0	0	0	4.4	31.1%	
	Seg.#4	12.6	10.5	3.9	0	0	0	3.9	21.1%	
Camped Private/	Seg.#2	1.5	3.7	2.2	0	0	0	2.2	9.6%	
	Seg.#4	11.8	5.3	1.3	0	0	2.6	6.6	27.6%	
Lodged Comm./	Seg.#2	5.9	3.0	2.2	1.5	0	1.5	0.7	14.8%	
	Seg.#4	6.6	5.3	1.3	0	0	0	1.3	14.5%	

Where Shoreline Users Spend Their Nights In The Arkansas River Valley?

		Percent Stayed this Number of Nights								Percent Stayed No Nights
		1	2	3	4	5	6-7	>7	Total	
Total Shore-line Users	Seg.#4	17.1	12.2	7.3	1.2	1.2	3.7	6.1	48.8%	51.2%
Camped Public		9.8	9.8	3.7	0	0	2.4	2.4	28.0%	
Camped Private		2.4	2.4	1.2	0	0	1.2	0	7.3%	
Lodged Comm.		4.9	1.2	2.4	2.4	1.2	1.2	0	13.4%	

What Numbers of People Were Seen Outside Boaters' Own Group?

		Segment 2			Segment 4		
		Put-Ins	On River	Take-Outs	Put-Ins	On River	Take-Outs
None/	1981:	16.2%	1.7%	8.4%	31.6%	4.2%	16.9%
	1987:	6.3	0.8	0.8	6.8	5.2	7.8
1-10/	1981:	19.6	11.3	12.6	30.1	23.0	28.2
	1987:	12.6	9.5	4.0	23.1	16.9	22.2
11-25/	1981:	28.8	32.6	21.8	20.7	28.6	20.2
	1987:	19.6	17.4	18.4	23.4	20.8	28.7
25-75/	1981:	33.3	38.5	44.7	17.0	37.1	30.0
	1987:	33.8	35.4	43.2	29.9	33.8	31.7
>75/	1981:	2.1	15.9	12.5	0.5	7.0	4.6
	1987:	28.2	37.0	33.7	17.8	23.2	10.4

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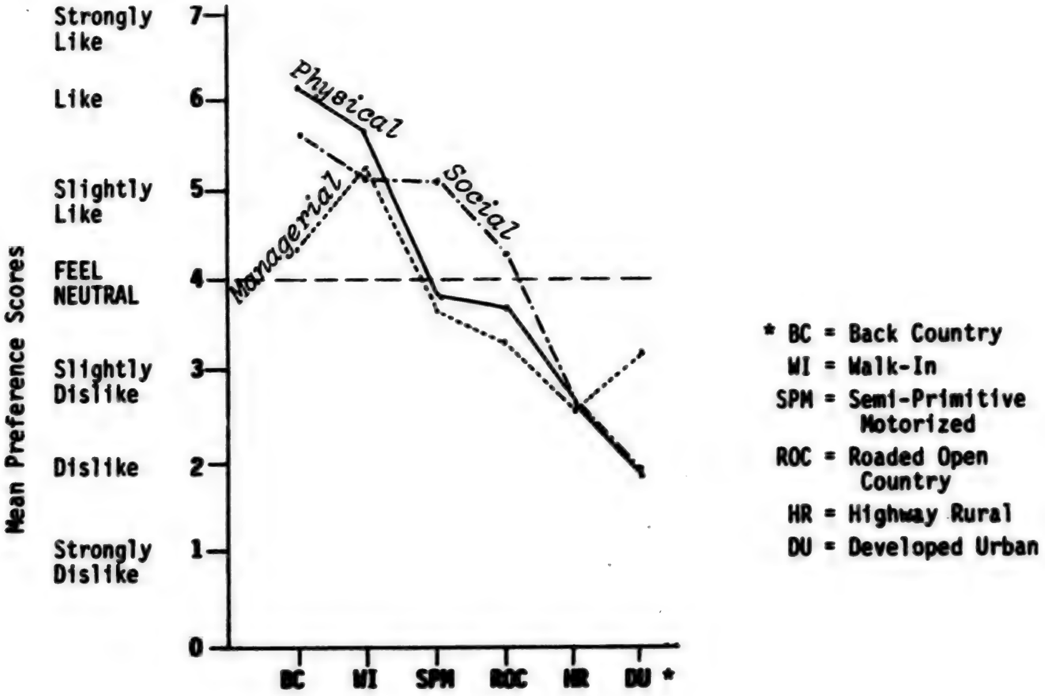
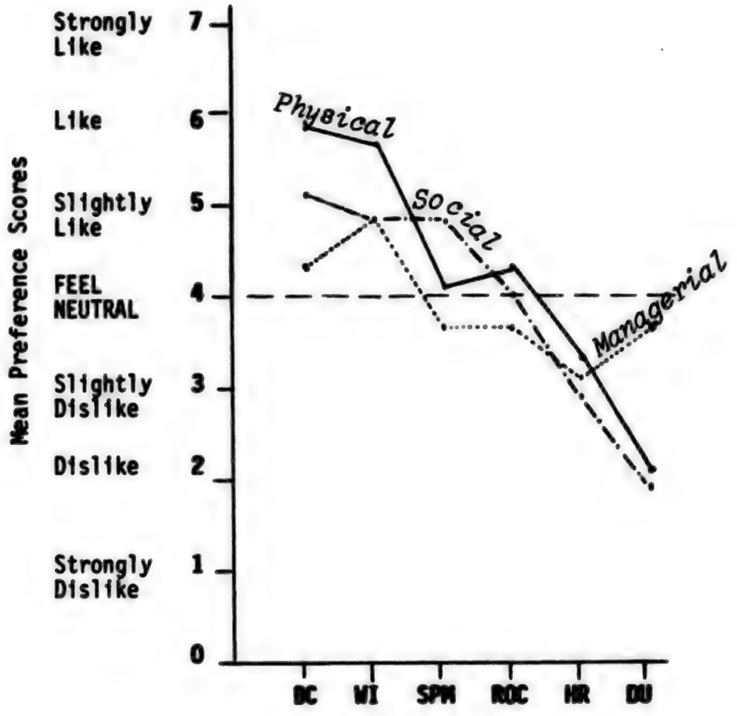
3. Recreation Opportunity Preferences: Reasons for Visiting the River

What Were the Character Class Preferences of Boaters on Segment 2?



What Were the Character Class Preferences of Boaters on Segment 4?



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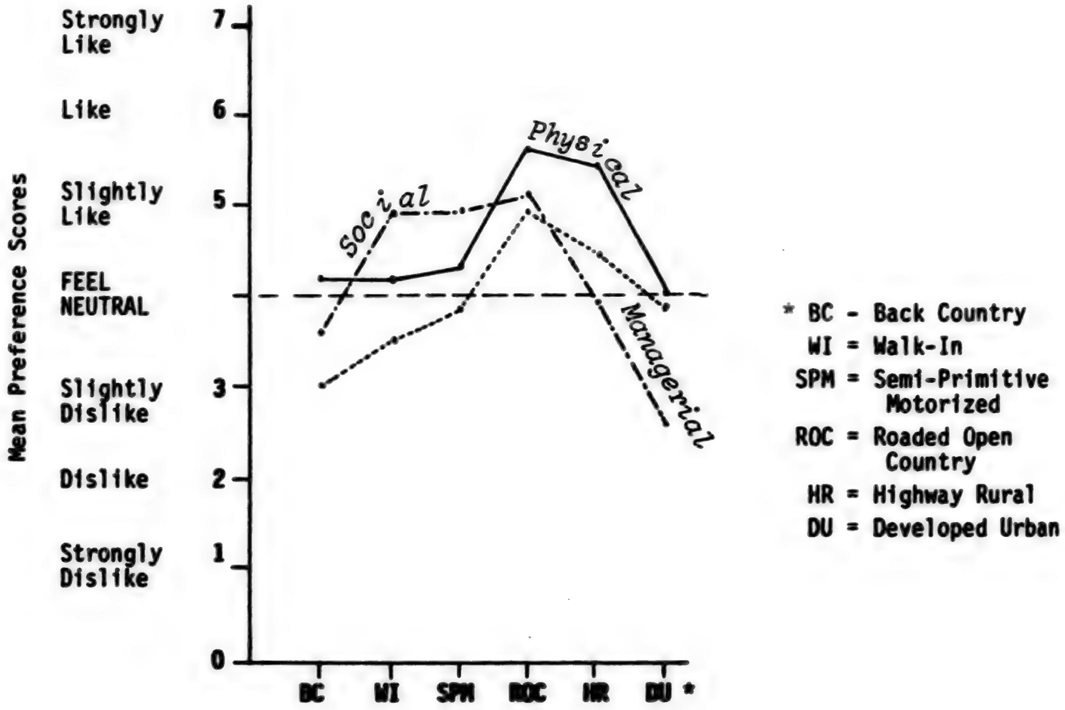
What Were the Character Class Preferences of Shoreline Users on Segment 4?



4. Problems Encountered

What Issues Were Perceived as Problems by Boaters?

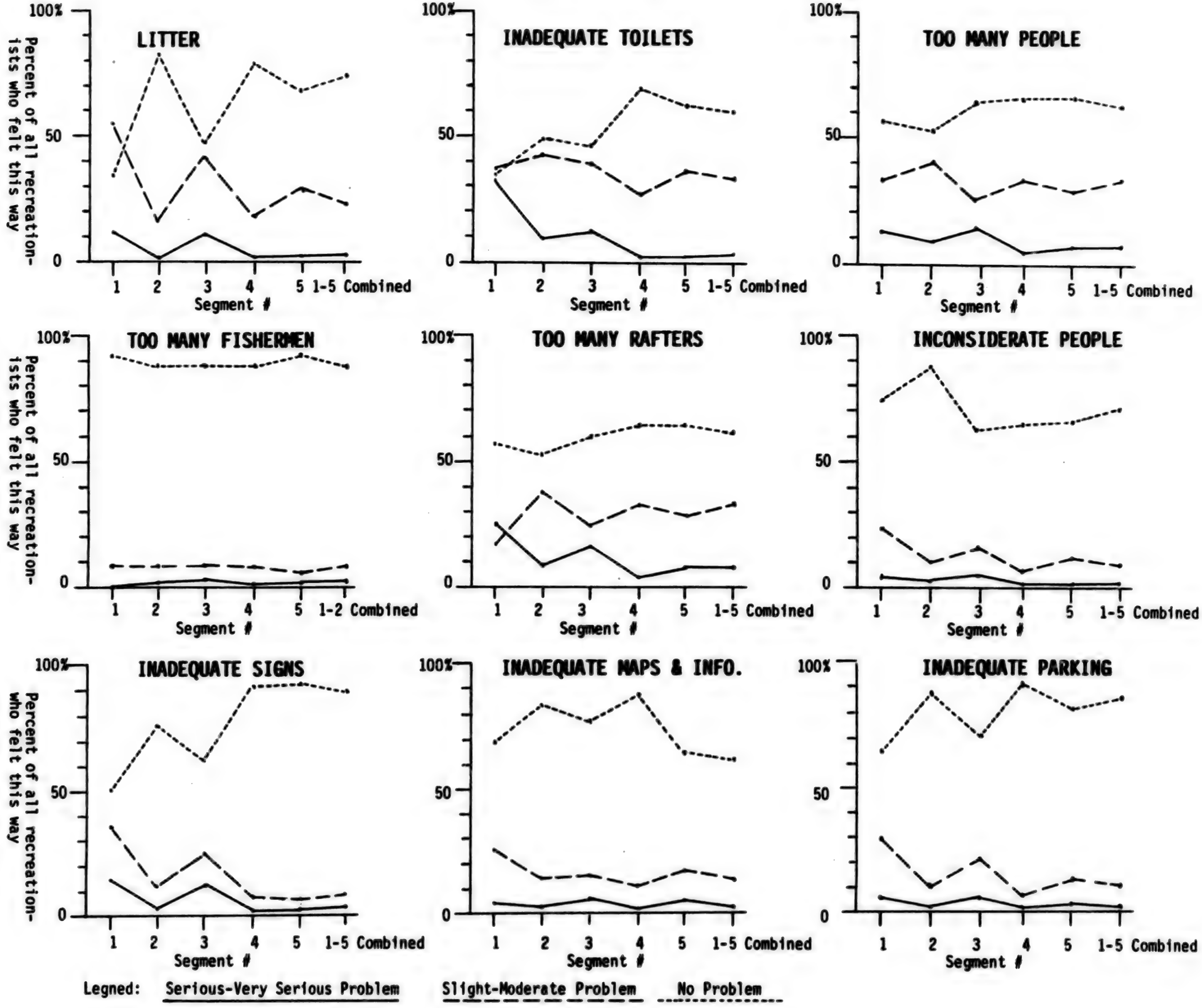
		Segment 2			Segment 4		
		No Problem	Slight -Mod. Problem	Serious -Very Serious Problem	No Problem	Slight -Mod. Problem	Serious -Very Serious Problem
Inadequate toilet facil. at PIs & TOs*	1981:	(41.6%)	(45.3%)	(13.1%)	(30.5%)	(56.3%)	(13.1%)
	1987:	40.7	40.0	17.8	40.0	45.0	12.4
Too many people on river	1981:	(49.8)	(42.1)	(8.2)	(73.0)	(24.6)	(2.3)
	1987:	32.6	48.2	16.3	63.7	22.4	13.7
Too few toilet facil. between PIs & TOs	1981:	(55.4)	(36.3)	(8.3)	(42.9)	(49.0)	(8.0)
	1987:	53.3	36.3	8.1	46.2	41.2	9.9
Navigation problems due to low water	1981:	(48.6)	(43.3)	(8.1)	(40.6)	(50.3)	(9.3)
	1987:	54.8	35.6	8.2	71.2	17.5	7.5

* Note: PIs=Put-Ins/TOs=Take-Outs

(table continued on next page)

		Segment 2			Segment 4		
		No Problem	Slight-Mod. Problem	Serious-Very Serious Problem	No Problem	Slight-Mod. Problem	Serious-Very Serious Problem
Too few drinking water sources	1981:	(61.7)	(34.1)	(4.2)	(46.9)	(44.6)	(8.4)
	1987:	49.6	45.2	3.7	43.8	46.3	6.6
People being inconsiderate	1981:	(81.6)	(17.2)	(1.2)	(86.0)	(12.1)	(1.8)
	1987:	59.3	29.6	9.7	68.8	25.0	3.7
Unskilled people using river	1981:	(70.2)	(24.9)	(4.8)	(72.2)	(23.1)	(4.7)
	1987:	57.0	36.3	5.2	62.5	27.5	7.4
Litter on banks	1981:	(54.7)	(41.6)	(3.7)	(53.7)	(39.9)	(6.5)
	1987:	57.0	37.0	3.7	52.5	39.9	4.9
Too few garbage cans	1981:	(67.8)	(29.8)	(2.4)	(59.9)	(34.9)	(5.1)
	1987:	61.5	29.6	5.9	58.7	31.3	6.2
People shouting & yelling	1981:	(84.1)	(15.5)	(0.4)	(87.5)	(10.6)	(1.9)
	1987:	63.7	25.2	7.4	81.3	12.6	3.7
Picnic sites occupied by others	1981:	(not measured)			(not measured)		
	1987:	57.0	27.4	5.9	67.5	16.2	7.4
Insufficient information on things to do & see on river	1981:	(77.0)	(21.0)	(2.1)	(69.0)	(30.1)	(0.9)
	1987:	60.0	33.3	4.5	68.8	25.1	3.7
Campsite locations not clearly ID	1981:	(66.7)	(28.9)	(4.4)	(55.4)	(41.0)	(3.6)
	1987:	61.5	21.5	6.6	53.7	22.4	8.7
Too many commercial establishments	1981:	(87.3)	(7.4)	(5.3)	(83.3)	(15.4)	(1.4)
	1987:	65.2	25.2	5.9	67.5	25.0	2.5
Poor quality campsites	1981:	(68.1)	(21.3)	(10.6)	(56.1)	(38.6)	(5.3)
	1987:	73.0	18.0	7.3	57.5	21.2	8.7
Picnic sites not clearly ID	1981:	(not measured)			(not measured)		
	1987:	65.9	20.8	5.1	55.0	26.2	4.9
Litter in River	1981:	(72.5)	(26.3)	(1.2)	(74.0)	(23.3)	(2.8)
	1987:	65.2	31.3	2.2	66.2	25.0	4.9
Poor quality Picnic sites	1981:	(not measured)			(not measured)		
	1987:	65.2	28.2	2.9	55.0	36.2	6.2

PROBLEMS EXPERIENCED—All River Users (Undifferentiated by Activity)



5. Possible Management Actions

What Kinds of Management Do Boaters Support or Oppose?

	Segment 2			Segment 4		
	Oppose	Neutral	Support	Oppose	Neutral	Support
Actions Supported:						
Require to carry out own trash	8.9%	6.7%	81.5%	13.4%	10.0%	75.0%
Prohibit motorized watercraft	8.9	10.4	77.8	13.4	10.0	76.2
Allow wood fires only at designated sites	13.3	17.0	65.2	6.2	12.5	78.7
Prohibit ORVs except on roads & highways	9.7	15.6	73.2	10.0	26.2	62.4
Develop short hiking trails along river	10.3	20.0	66.7	6.2	17.5	75.0
Allow camping only at desig. locations		(see Neutral)		16.2	21.2	61.3
Post signs warning/advising of hazards		(see Neutral)		15.0	23.7	58.7
Neutral Actions:						
Improve put-in/take-out loading areas	11.1%	47.4%	38.5%	4.9%	47.5%	46.2%
Allow camping only at desig. locations	22.3	20.0	53.4		(see Supported)	
Provide campsites at put-ins & take-outs	16.3	28.9	51.8	17.5	36.2	45.0
More aggressively enforce safety rules & regs.	15.6	46.7	34.8	17.5	38.7	42.5
Restrict the number of people using the river at any one time	26.0%	22.2%	48.9%	30.0%	26.2%	42.5%
Limit the no. people per group allowed on the river	26.0	22.2	48.9	38.7	22.5	37.5
Post signs warnin & advising of hazards	25.2	25.9	45.2		(see Supported)	

(table continued on next page)

	Segment 2			Segment 4		
	Oppose	Neutral	Support	Oppose	Neutral	Support
Improve existing access roads to PIs & TOs*	15.6	48.9	32.6	10.0	50.0	37.7
Achieve better spacing by assigning beginning trip times	23.7	25.9	46.7	27.4	27.5	43.8
Require permits to protect the land	27.5	23.0	44.5	21.2	31.3	46.2
Provide more along-river campsites between PIs & TOs	25.9	34.8	35.5	24.9	37.5	36.3
Provide more patrols to assist river users and enforce regs.	28.5	40.9	28.2	27.4	37.5	33.8
Allow picnicking only at desig. areas	37.8	23.0	36.1	29.9	26.2	42.5
Provide firewood at campsites & picnic areas	32.6	25.9	37.8	31.2	26.2	41.2
Provide more info. along river to ID facil.& points of interest	29.6	34.1	33.3	17.5	36.2	43.0
Require permits to avoid conflicts	37.8	25.9	31.9	33.8	32.5	32.5
Provide more distance markers along river	37.0	34.1	25.9	22.4	47.5	28.7
Provide more points of public access	46.7	24.4	24.4	36.2	31.3	14.9
Require all individuals to pay fees	42.9	25.9	26.7	35.0	32.5	31.3
Actions Opposed:						
Prohibit all wood fires	28.2%	40.7%	28.2%	53.7%	23.7%	21.2%
Prohibit camping along river	69.6	17.8	8.9	49.7	18.8	10.0

What Differences Are There In Support For Selected Management Actions Between Commercial and Private Boaters?

	Segment 2		Segment 4	
	Comm.	Priv.	Comm.	Priv.
Require people to carry out their own trash	85.1%	80.0%	78.3%	88.2%
Prohibit motorized watercraft	83.3	71.5	79.0	70.6
Allow woodfires only at designated spots	75.6	48.6	82.0	76.5
Develop short hiking trails along the river	67.3	71.5	79.0	64.7
Prohibit ORVs except on roads and highways	71.9	80.0	67.7	47.0
Allow camping only at designated areas	58.9	47.0	62.9	58.8
Post signs warning and advising of hazards	46.3	48.6	62.3	53.0
Restrict the number of people using the river at any one time	55.3	37.1	45.1	35.2
Require permits to protect the land	52.6	30.3	53.2	23.6
Require permits to avoid user conflicts	38.5	18.2	37.1	17.7
Achieve better group spacing by assigning launch times	53.1	25.3	46.8	35.3
Limit the # of people per group allowed on river	50.0	42.8	41.9	23.5
Require all users to pay fees	32.3	15.1	32.2	29.4

APPENDIX H
VEGETATIVE CONTRACTS

CONTRACTS	TYPE OF TREATMENT
CO-050-TS6-2 (Sawmill Gulch) Expiration - 9/9/89 Volume - 318 cords T. 12 S., R. 79 W., Sec. 5	clear cuts
CO-050-TS5-6 (Cache Creek) Expiration - 9/30/88 Volume - 445 cords T. 12 S., R. 79 W., Sec. 6 & 7 T. 12 S., R. 80 W., Sec. 1	clear cuts
CO-050-TS7-6 (Cache Creek II) Expiration - 9/1/90 Volume - 123 cords T. 12 S., R. 80 W., Sec. 1	clear cuts
CO-050-TS5-14 (Downtree) Expiration - 12/11/88 Volume - 878 cords T. 10 S., R. 80 W., Sec. 18	clear cuts
CO-050-TS6-11 (Invy) Expiration - 10/10/89 Volume - 388 cords T. 48 N., R. 12 E., Sec. 7 & 8	thinnings

APPENDIX I

US Army Corps of Engineers
Albuquerque District
P.O. Box 1580
Albuquerque, NM 87103-1580

Nationwide Permit Summary

DISCHARGES LESS THAN 10 CUBIC YARDS

Pursuant to Section 404 of the Clean Water Act (33 USC 1344), Section 10 of the Rivers and Harbors Act, and federal regulations (33 CFR 330.5), a nationwide permit for the placement of dredged or fill material into all waters of the United States other than wetlands for discharges not exceeding 10 cubic yards has been issued. The permit authorizes discharges of dredged or fill material into waters of the United States that do not exceed ten cubic yards as part of a single and complete project, provided the material is not placed for the purpose of stream diversion. This nationwide permit is designed for very minor fill activities and cannot be used for piecemeal fill activities.

The following special conditions must be followed in order for the activity to be authorized under this nationwide permit:

(1) That any discharge of dredged or fill material will not occur in the proximity of a public water supply intake.

(2) That any discharge of dredged or fill material will not occur in area of concentrated shellfish production.

(3) That the activity will not jeopardize a threatened or endangered species as identified under the Endangered Species Act, or destroy or adversely modify the critical habitat of such species.

(4) That the activity shall not significantly disrupt the movement of those species of aquatic life indigenous to the waterbody (unless the primary purpose of the fill is to impound water).

(5) That any discharge of dredged or fill material shall consist of suitable material free from toxic pollutants (see Section 307 of the Clean Water Act) in toxic amounts.

(6) That any structure or fill authorized shall be properly maintained.

(7) That the activity will not occur in a component of the National Wild and Scenic River System, nor in a river officially designated by Congress as a "study river" while the river is in an official study status.

(8) That the activity shall not cause an unacceptable interference with navigation.

(9) That if the activity may adversely affect historic properties which are listed on, or are determined eligible for listing on, the National Register of Historic Places, the permittee will notify the District Engineer. Furthermore, that, if the permittee before or during prosecution of the work authorized, encounters a historic property that has not been listed or determined eligible for listing on the National Register, but which may be eligible for listing in the National Register, the permittee shall immediately notify the District Engineer.

(10) That the construction or operation of the activity will not impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

(11) That in certain states, an individual state water quality certification must be obtained or waived (Note: All nationwide permit activities involving the discharge of dredged or fill material into waters of the U.S. located within the Albuquerque District have appropriate State certification).

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(12) That in certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (Note: There are no coastal areas within the Albuquerque District).

(13) That the activity will comply with regional conditions which may have been added by the division engineer.

(14) That the best management practices listed below shall be followed to the maximum extent practicable.

Best Management Practices:

(1) Discharges of dredged or fill material into waters of the United States shall be avoided or minimized through the use of other practical alternatives.

(2) Discharges in spawning areas during spawning seasons shall be avoided.

(3) Discharges shall not restrict or impede the movement of aquatic species indigenous to the waters or the passage of normal or expected high flows or cause the relocation of the water (unless the primary purpose of the fill is to impound waters).

(4) If the discharge creates an impoundment of water, adverse impacts on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow shall be minimized.

(5) Discharge in wetland areas shall be avoided.

(6) Heavy equipment working in wetlands shall be placed on mats.

(7) Discharges into breeding areas for migratory waterfowl shall be avoided.

(8) All temporary fills shall be removed in their entirety.

Further Information:

(1) District Engineers are authorized to determine if an activity complies with the terms and conditions of a nationwide permit.

(2) Nationwide permits do not obviate the need to obtain other Federal, state or local authorizations required by law.

(3) Nationwide permits do not grant any property rights or exclusive privileges.

(4) Nationwide permits do not authorize any injury to the property or rights of others.

(5) Nationwide permits do not authorize interference with any existing or proposed Federal project.

If the proposed discharge satisfies all of the above conditions, it is automatically permitted and no further permit action from the Corps of Engineers is required. If any conditions of this nationwide permit will not be complied with, an individual permit should be requested using ENG Form 4345 (Application for a Department of the Army Permit).

For additional information concerning the nationwide permits or for a written determination regarding a specific project, please contact the office below:

Chief, Regulatory Branch
Albuquerque District, US Army Corps of Engineers
P.O. Box 1580
Albuquerque, NM 87103-1580
Telephone (505) 766-2776

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APPENDIX I

MANAGEMENT PRACTICES FOR RECREATIONAL GOLD DREDGING IN THE ARKANSAS RIVER AND ITS TRIBUTARIES IN COLORADO

1. The following list of management practices has been developed for recreational gold dredging on the Arkansas River and its tributaries in Colorado. The application of these practices will help to minimize most of the environmental impacts and public objections associated with gold dredging. We strongly encourage users of Section 404 nationwide permits to comply with the listed management practices.

a. The nationwide permit does not constitute either the easement or right-of-way to trespass across or work upon property or patented mining claims belonging to others nor does this permit constitute any other approval that may be required by local, State or other Federal agencies.

b. Access to the river should be accomplished using existing trails.

c. Dredging activities should be limited to the period between 1 April and 15 October and should not exceed 30 days per year within that period.

d. Dredging should not take place within 100 feet of any bridge support which is below the ordinary high water mark.

e. Dredging should not take place within 10 feet of any streambank with established vegetation.

f. Refueling of motorized equipment should take place outside of the waterway.

g. Streambanks should not be undercut.

h. Heavy vehicular equipment should not operate in the waterway.

i. Only one site should be dredged at any one time with only one machine being operated at that site.

j. No dredging operation should occur within 500 yards of any other motorized dredging activity.

k. Dredging should not occur within 150 feet of a developed campground.

l. Material too large to be moved by hand should not be disturbed.

m. Anchorage systems (if used) should not span the river or otherwise restrict the free passge of small craft.

n. The work area, including the land surrounding the work site, should be kept free of litter at all times and should be thoroughly cleaned prior to departure. All garbage, litter, debris and refuse should be carried off by the permittee and disposed of properly.

2. Questions regarding these practices should be directed to the Albuquerque District, U.S. Army Corps of Engineers, P.O. Box 1580, Albuquerque, NM 87103-1580. Telephone inquiries may be made to the Southern Colordo Project Office in Pueblo at (303) 543-9459 or Mr. Andrew Rosenau at (505) 766-2776.

425

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1988

An Act

HOUSE BILL NO. 1253.

BY REPRESENTATIVES Chlouber, Anderson, Grant, Masson, Ratterree, Shoemaker, Trujillo, and Tucker; also SENATOR McCormick.

CONCERNING THE GRANT OF REGULATORY AUTHORITY TO THE BOARD OF PARKS AND OUTDOOR RECREATION OVER THE RECREATIONAL USE OF THE ARKANSAS RIVER.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. Title 33, Colorado Revised Statutes, 1984 Repl. Vol., as amended, is amended BY THE ADDITION OF A NEW ARTICLE to read:

ARTICLE 12.5
Arkansas River Recreational Act

33-12.5-101. Short title. This article shall be known and may be cited as the "Arkansas River Recreational Act".

33-12.5-102. Legislative declaration. The general assembly recognizes that the Arkansas river is a major recreation attraction and a vital resource for residents and nonresidents alike and hereby declares that it is the policy of this state to safeguard the recreational quality of the Arkansas river, and the adjacent lands, by granting the board the authority to regulate recreational use on the Arkansas river. It is not the intent of the general assembly to in any way interfere with private landowner rights along the river or with the determination, administration, or change of water rights in the drainage of the Arkansas river and its tributaries and the legal utilization thereof.

33-12.5-103. Powers of the board. (1) The board shall have the authority consistent with the legislative declaration of this article to regulate the manner, type, time, location,

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Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.

and amount of recreational and commercial use on that portion of the Arkansas river that runs from the confluence of the Lake Fork and the East Fork of the Arkansas river to the Pueblo reservoir.

(2) Subject to section 33-12.5-102, the board shall also have the authority to enter into agreements with municipalities, water conservancy districts, and private individuals to effect reservoir operation in order to provide water flows beneficial to recreation and consistent with section 33-12.5-104.

(3) The board shall, to the maximum extent possible but consistent with the legislative declaration of this article, keep the regulation of the recreational uses of the Arkansas river to a minimum.

33-12.5-104. Effect of article - rights of property owners - water rights. (1) Nothing in this article shall be construed as:

(a) Diminishing the rights of owners of property as provided in the constitution and statutes of this state or in the constitution of the United States;

(b) Modifying or amending existing laws, court decrees, or court decisions or affecting future court proceedings or decrees in any manner with respect to the determination, administration, or change of water rights;

(c) Granting the board any vested water rights or right to apply for or obtain any decree for a water right for recreational purposes;

(d) Prohibiting or in any way regulating the construction, modification, rehabilitation, or operation of reservoirs, diversion structures, or other facilities necessary for the storage, diversion, or conveyance of water in the drainage of the Arkansas river and its tributaries as otherwise permitted by law;

(e) Superseding, abrogating, or impairing rights to divert water and apply water to beneficial uses in accordance with sections 5 and 6 of article XVI of the Colorado constitution, the provisions of articles 80 to 93 of title 37, C.R.S., or Colorado court decisions with respect to the determination and administration of water rights. Nothing in this article shall be construed, enforced, or applied so as to cause or result in material injury to water rights. The question of whether such material injury to water rights exists and the remedy thereof shall be determined by the water court.

(f) Allowing the board or the division to require minimum stream flows or minimum water levels in any lakes or impoundments.

33-12.5-105. Repeal of article. This article is repealed, effective January 1, 1992.

SECTION 2. No appropriation. It is the intent of the general assembly that no general fund moneys nor transfers from another park system may be used for the implementation of this act for fiscal year 1988-1989.

SECTION 3. Effective date. This act shall take effect January 1, 1989.

SECTION 4. Safety clause. The general assembly hereby finds, determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.

CBBledsoe
Carl B. Bledsoe
SPEAKER OF THE HOUSE
OF REPRESENTATIVES

Ted L. Strickland
Ted L. Strickland
PRESIDENT OF
THE SENATE

Lee C. Bahrych
Lee C. Bahrych
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

Joan M. Albi
Joan M. Albi
SECRETARY OF
THE SENATE

APPROVED April 21, 1988 at 8:32 am

Roy Romer
Roy Romer
GOVERNOR OF THE STATE OF COLORADO

SUPPORT DATA

LIST OF ILLUSTRATIONS

Illustration Page

I-1: Arkansas River Recreation Management Plan Planning Area....I-2
I-2: 1987 Boating Use Estimates....I-8
I-3: Recreation Character Class Descriptions....I-9
I-4: Recreation Character Classes, 1981-1987....I-10

III-1: BLM Guidelines for Developing EAs/EISs....III-11
III-2: Cooperative Management Options....III-13

IV-1: Concept Plan, Pioneer Park....IV-59
IV-2: Concept Plan, Ruby Mountain Recreation Site....IV-60
IV-3: Concept Plan, Hecla Junction Recreation Site....IV-61
IV-4: Concept Plan, Salida Waterfront Recreation Site....IV-62

V-1: Proposed Action and Alternatives (Schematic)....V-2
V-2: Existing and Projected Boating Persons Per Year (Graph)....V-3
V-3: Boating Persons Per Year (Table)....V-4
V-4: Boating Persons Per Time Period, Proposed Action....V-5
V-5: Boating Persons Per Time Period, Alternative....V-6
V-6: Recreation Character Class Prescriptions by Alternative....V-7
V-7: Recreation Carrying Capacities for River Corridor...V-8
V-8: River Segment Maps for Proposal and Alternatives A&B (six pp)....V-12
V-9: Characteristics of Proposed Action/Guidelines for Alternatives....V-18

VII-1: Adverse Recreation Impacts....VII-14
VII-2: Recreation Character Class Changes Under the Proposal....VII-15
VII-3: Total Boating Use Projections....VII-18
VII-4: Boating Use Increases for 1997 Compared to 1987....VII-20
VII-5: Estimates of River-Related Camping Increases....VII-20
VII-6: Projected Fishermen User Days by Alternative....VII-24
VII-7: Impacts to Wildlife and Threatened and Endangered Species....VII-40
VII-8: Impacts to Fisheries....VII-47

VIII-1: Cooperators and DPOR 22-Member Advisory Committee...VIII-3
VIII-2: Chronology of Predraft Events....VIII-4
VIII-3: Environmental Analysis Team Members for Arkansas River Recreation Managment Plan....VIII-5

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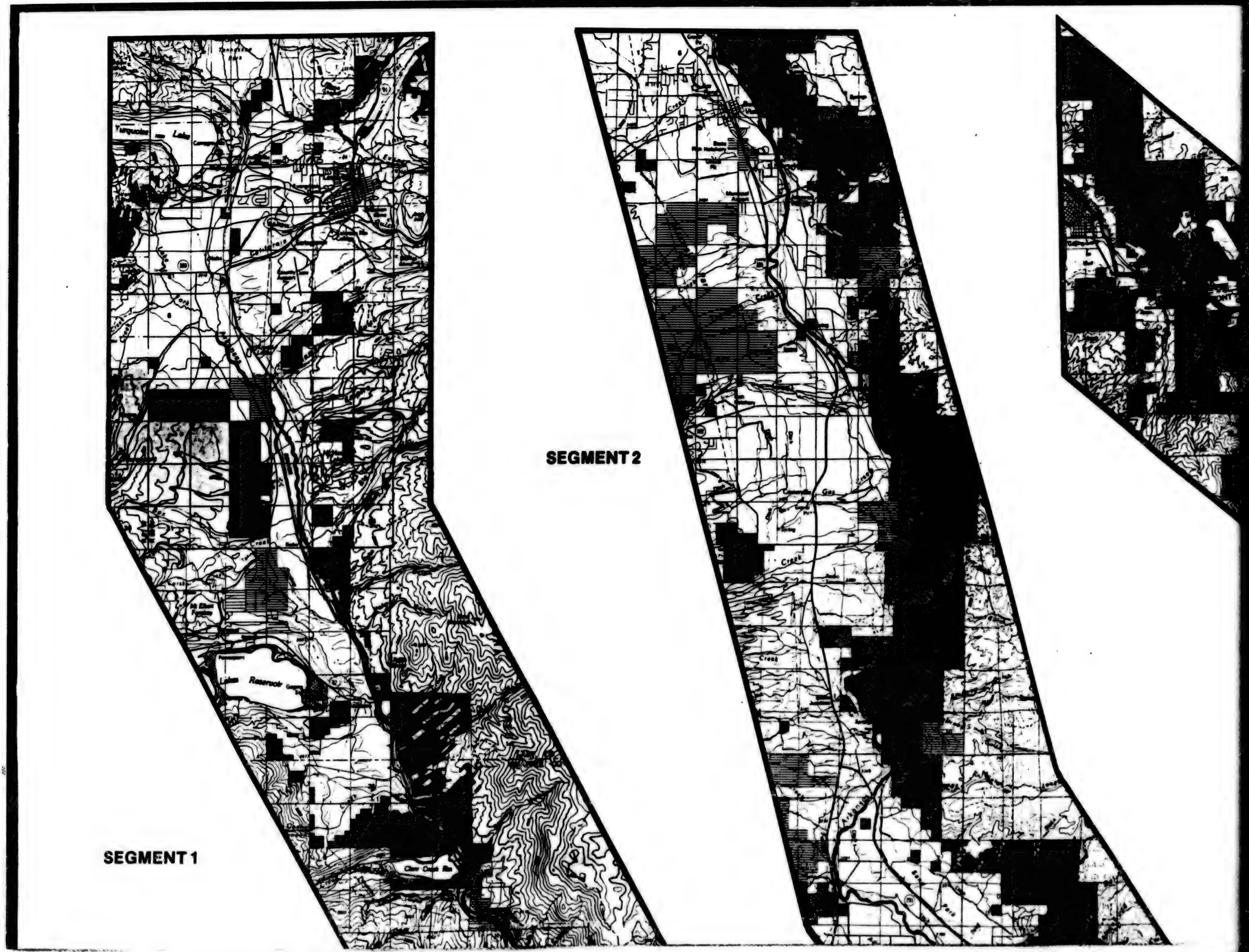

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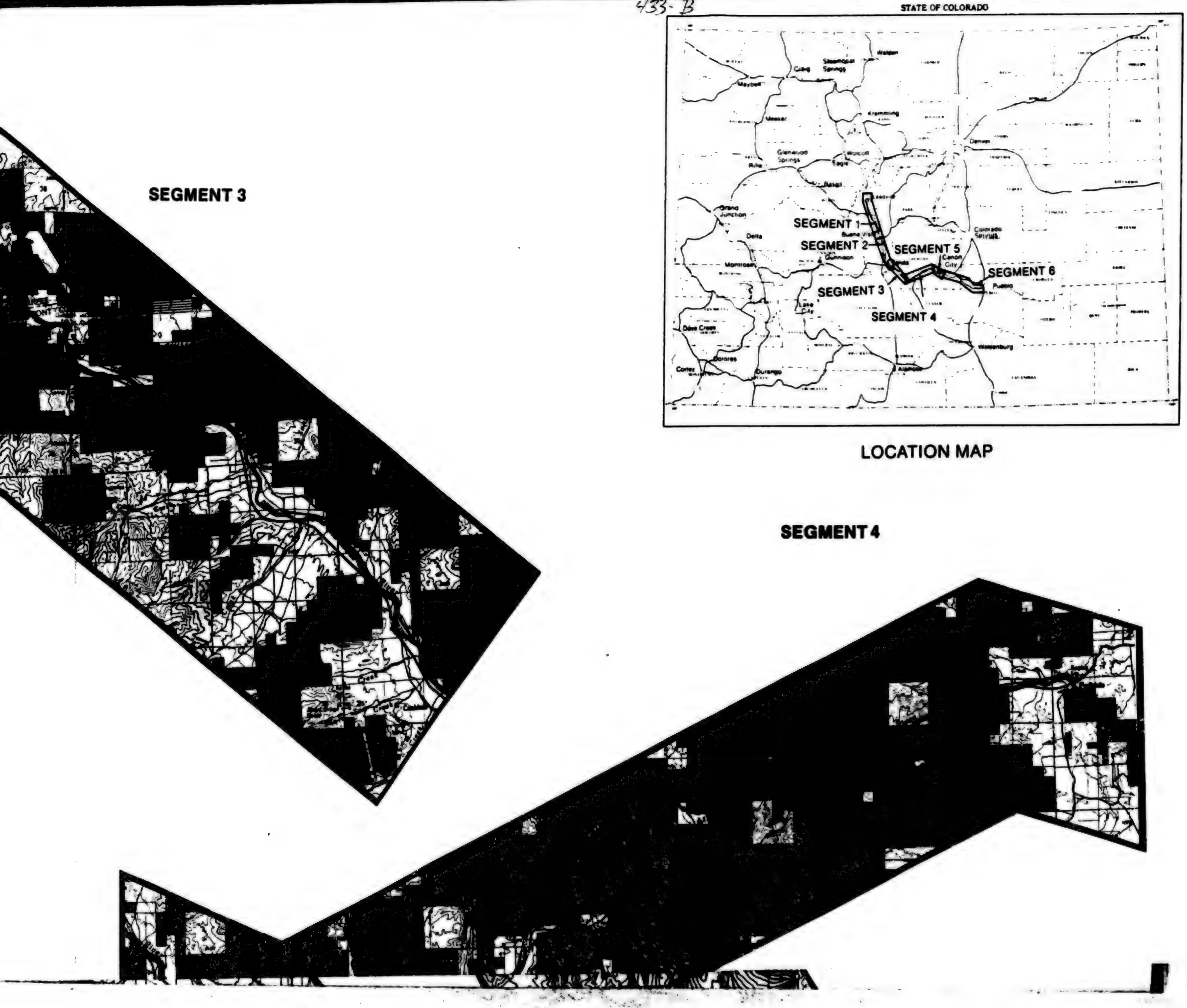
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Colorado Springs
Canon City
Pueblo
Lake City
Dove Creek
Dolores
Cortez
Durango
Alamosa
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SEGMENT 2
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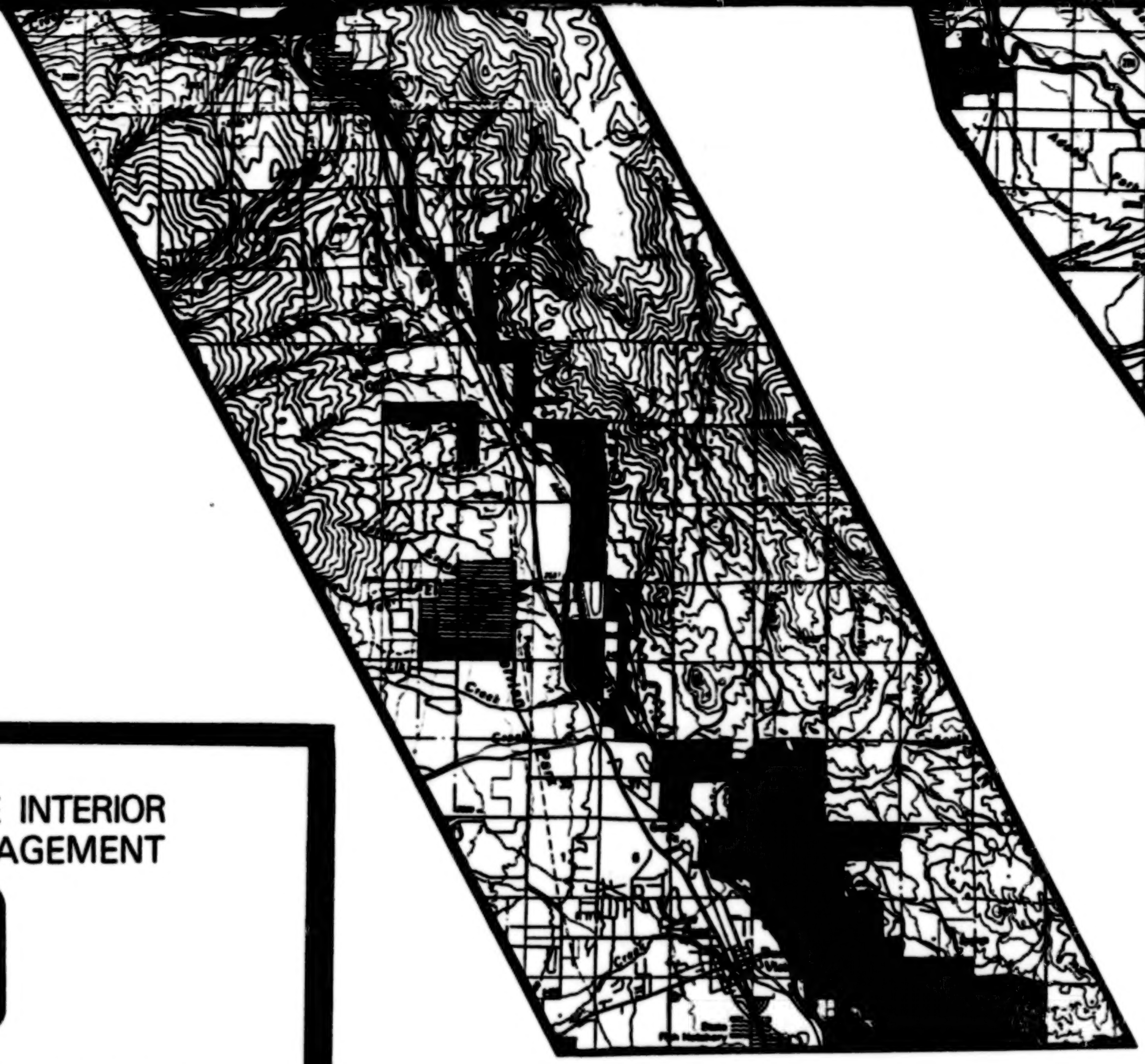
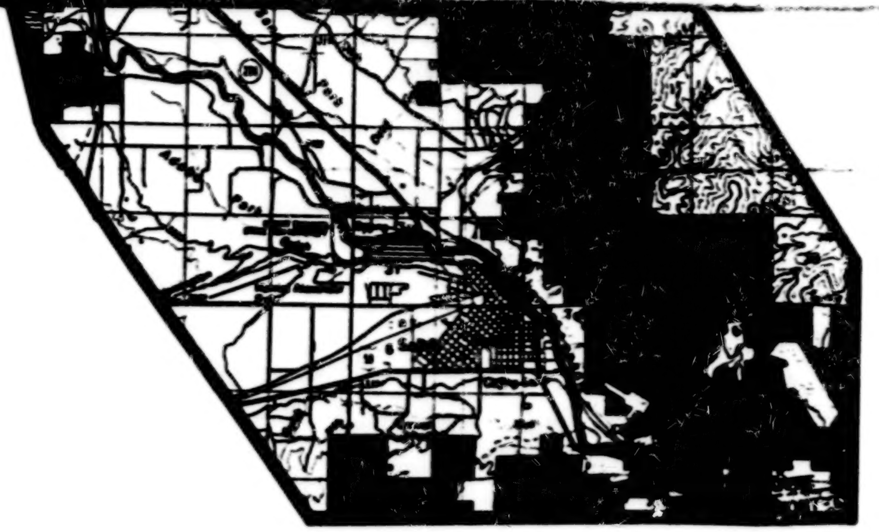
SEGMENT 5
SEGMENT 6
LOCATION MAP
SEGMENT 3
SEGMENT 4





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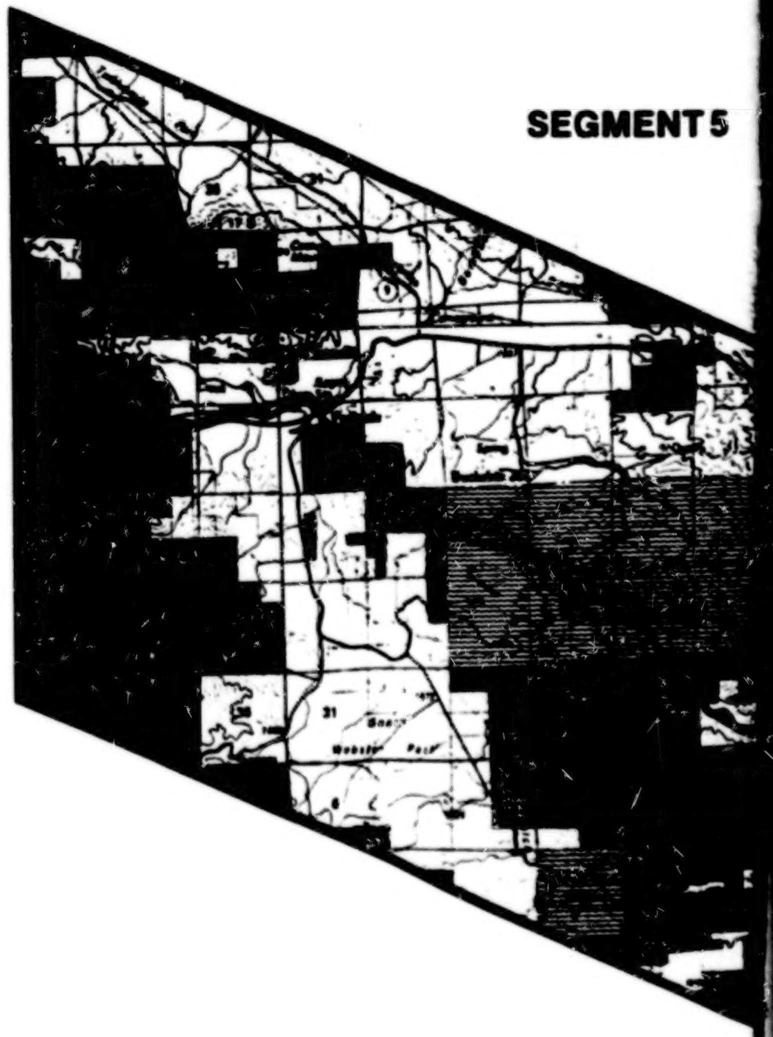

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BUREAU OF LAND MANAGEMENT

ARKANSAS RIVER
RECREATION MANAGEMENT PLAN
Planning Area Corridor

LEGEND

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BLM LAND	■
FOREST LAND	☐
STATE LAND	▨
PRIVATE LAND	☐

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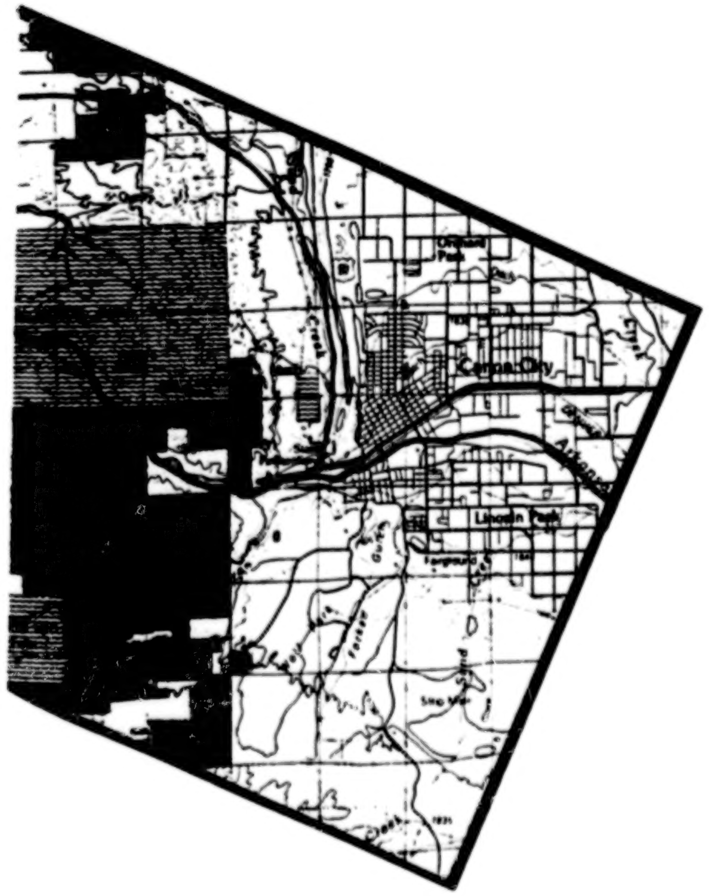

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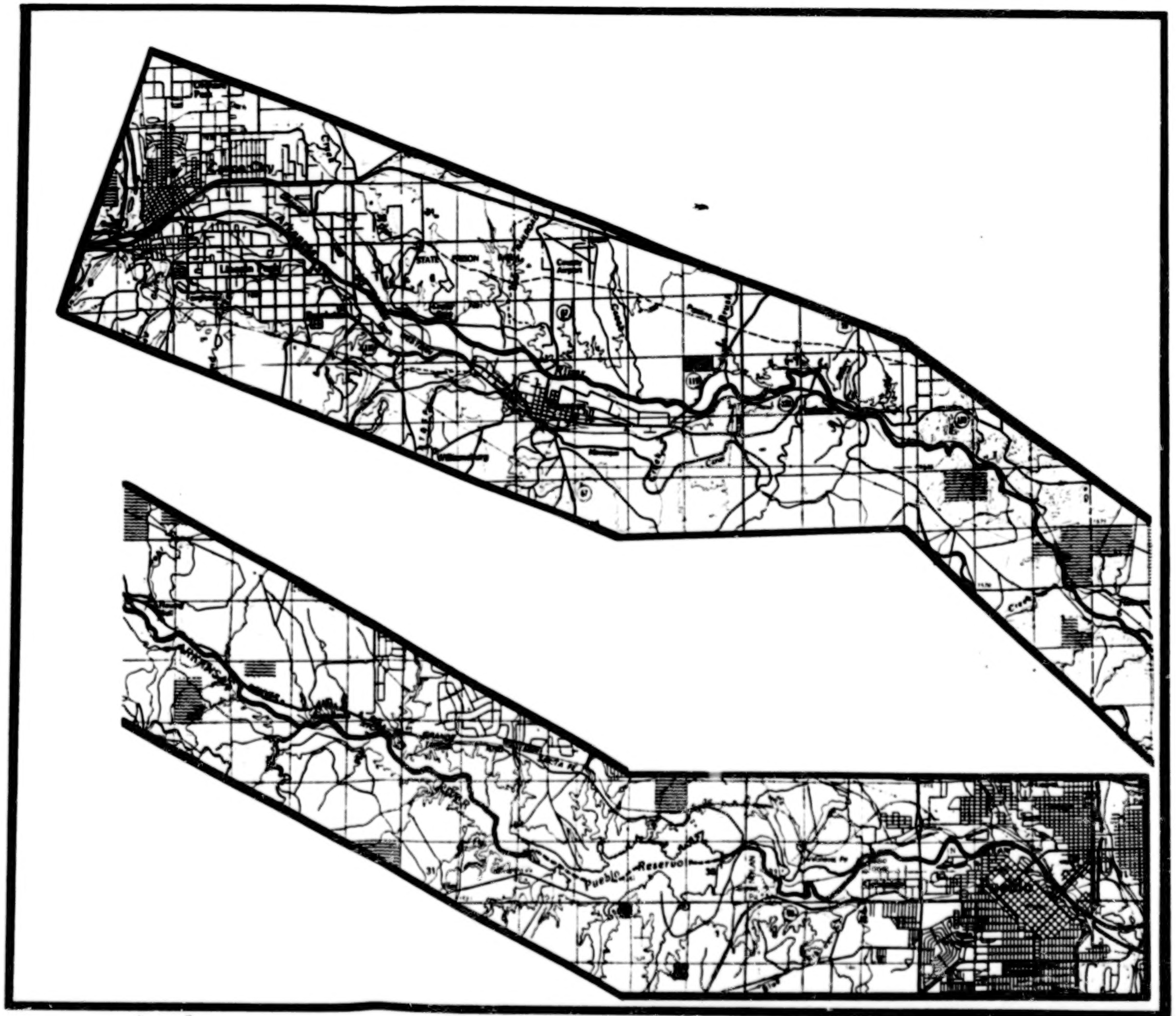

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